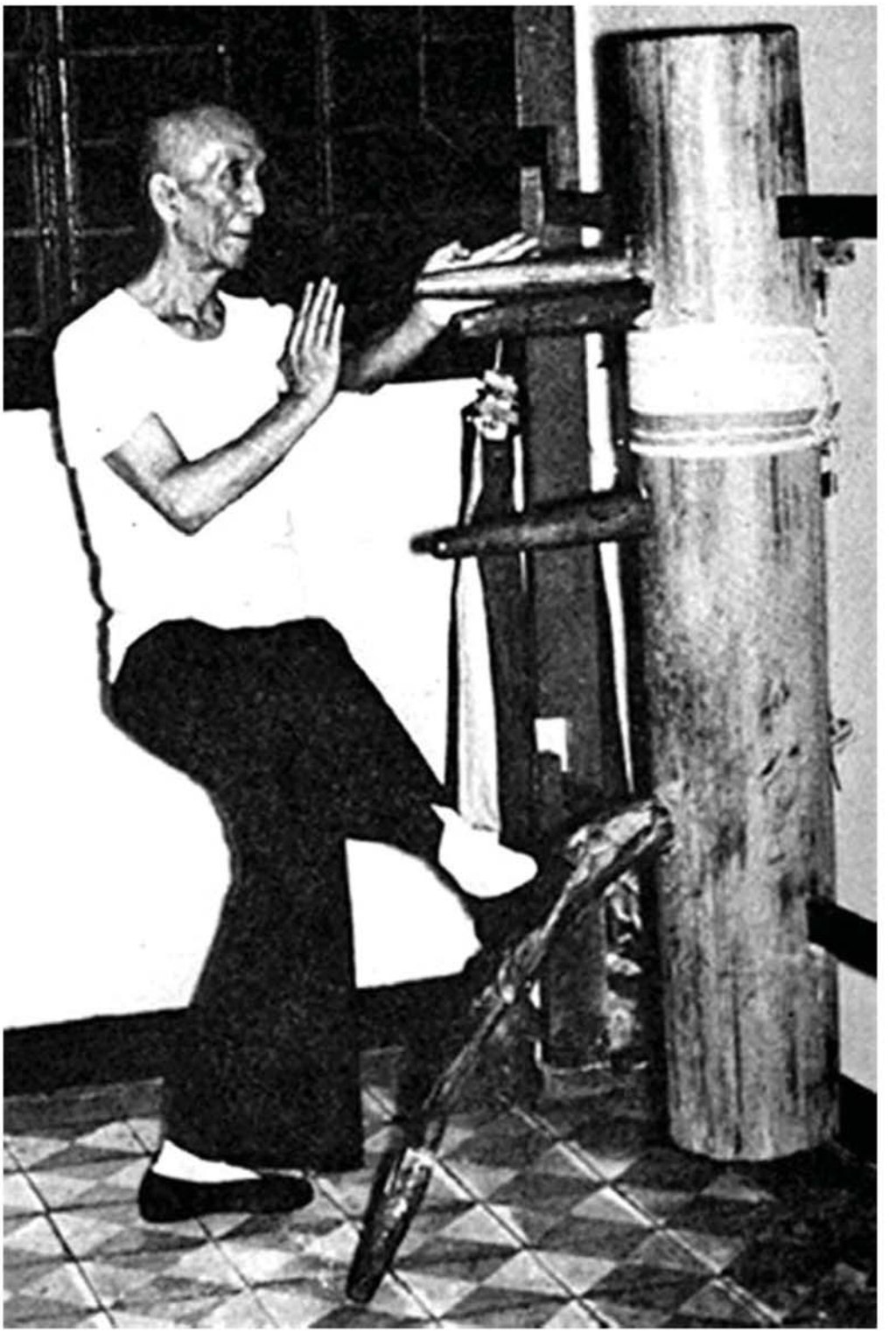
THE MOOK JONG

CONSTRUCTION MANUAL



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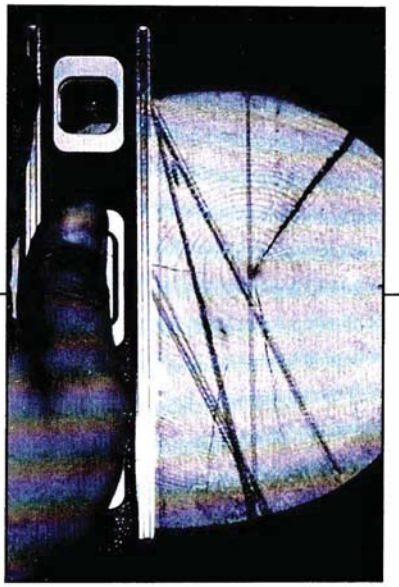

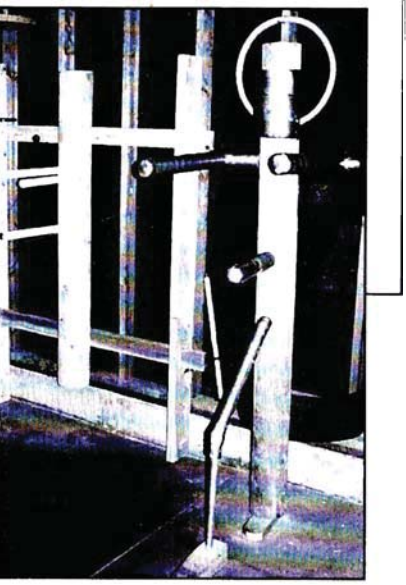

BUILDING MODERN AND TRADITIONAL WOODEN DUMMIES ON A BUDGET

MICHAEL D. JANICH

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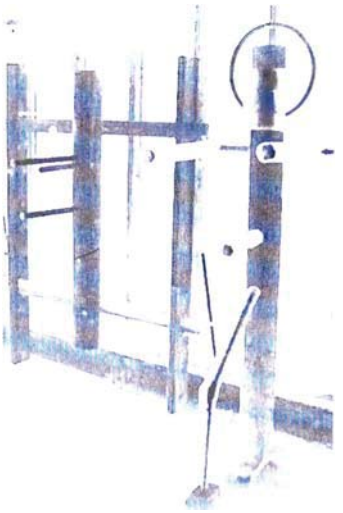

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INTRODUCTION

The martial artist interested in learning the combat application of his art faces a number of serious challenges. First, he must master the techniques and movements of the art itself—a feat not easily accomplished without a willing training partner. Second, he must develop an understanding of the physical principles of the art and learn to apply them with full power—an impossible goal when training with a partner and one not easily achieved with conventional heavy bags and striking targets. Finally, he must combine fluid technique, sound principles, and powerful application into a single expression to discover what really works in combat and what doesn't.

The training methods offered by most conventional martial arts don't even come close to meeting these challenges. Some arts offer spectacular technique but no power or practical application. Others emphasize power but cannot combine it with proper technique without risking serious injury.

Fortunately, there is one training method that allows the practitioner to integrate power and technique into one: the mook jong. The mook jong, or wooden dummy, is the most versatile and effective training aid available to the martial artist. Its unique design allows a fighter to practice full-power blocks, strikes, and kicks with the same realism as training with a partner, but unlike a training partner, it is never tired, sick, bored, or injured.

The wooden dummy consists of a central body, several protruding arms, and, in some cases, an extended leg. It is mounted on a shock-absorbing frame that allows it to provide almost human reactions while easily withstanding the most powerful strikes. When combined with the proper mindset and form, this simple device allows the martial artist to practice virtually any technique with tremendous realism and bone-breaking power. It is, in my opinion, the ultimate training aid for the martial artist.

Although the mook jong is usually associated with the practice of wing chun gung fu, its usefulness extends to all martial arts styles. I first got involved in wooden dummy training when I was a teenager studying an eclectic martial art that included elements of boxing, judo, aikido, and Savate, a French kicking art. Although there was no prearranged wooden dummy form associated with that particular art, I was able to isolate many of its fighting techniques and practice them very realistically on the dummy. Since then, I have studied numerous other martial arts and found that with a little imagination, it is possible to practice and enhance almost any martial arts style with wooden dummy training.

Despite the many advantages of the wooden dummy, for most practitioners, it still has one major drawback: cost. Traditional wing chun dummies, whether imported or domestically made, typically cost anywhere from $500 to $1,200.

When I first began studying the martial arts, I could barely afford my monthly dues, let alone a traditional wooden dummy. So, in the finest do-it-yourself tradition, I set about making my own. Although my first

attempt was far from perfect, it worked pretty well and encouraged me to keep trying. Over the past 20 years, I have built a number of different dummies for myself and my friends and come up with some significant improvements to the traditional design. This book is based on the knowledge I gained through this trial-and-error approach.

With a little skill, some basic tools, and the information contained in this book, you should have no trouble building a traditional wing chun-style dummy as good as any commercial version for well under $100. I will also teach you how to build my improved wooden dummy design that provides realistic movement patterns and near human limb resistance, also for under $100.

The wooden dummy is an excellent training tool for all martial artists. And now there's no excuse for you to be without one.

TOOLS

The wooden dummy designs described in this book do not require any special tools to construct. In fact, I have purposely modified the dummy designs to make them easier to build with commonly available tools and materials. The basic tools you will need include the following:

- Electric drill (3/8-inch or 1/2-inch preferred)
- 3/4-inch spade bit
- 1 1/4-inch spade bit
- Basic twist drill set (up to 3/8-inch diameter)
- Countersink
- Drill bit extension
- Crosscut hand saw
- Saber saw
- Hammer
- Wood chisel
- Hacksaw
- Screwdrivers or driver bits for your drill
- Pipe wrench
- Adjustable wrench or a socket wrench set
- Wood rasp
- Mill file
- Level
- Circular saw (optional)
- Jack plane (optional)
- Belt sander (optional)
- Propane torch (optional)
- Silver solder and flux (optional)

CHAPTER ONE

SELECTING A LOCATION AND MOUNTING SYSTEM

The first step in constructing a wooden dummy is deciding where to put it. Since an apartment dweller will have different (and probably far fewer) options for mounting his dummy than a homeowner, this decision is obviously situation dependent. After much experimentation, I have narrowed the mounting systems for the wooden dummy down to five: in-ground, floor mounted, rigid wall mounted, flexible wall mounted, and free standing.

A good mounting system is extremely important and will determine how usable your finished dummy will be. Also, it is much easier to calculate the proper position of the dummy's arms and leg by building the dummy mount before building the dummy itself. Therefore, I will cover the construction of dummy mounting systems first.

Please note that both traditional and nontraditional dummy bodies can be used with all of these mounting methods. For best results, choose the combination of dummy body and mount that best suits your situation and your needs as a martial artist.

IN-GROUND DUMMY MOUNTS

In-ground mounting is pretty self-explanatory. In its simplest form, you sink the post that forms the body of the dummy into the ground exactly like sinking a fence post. Use a posthole digger to dig a hole at least a couple of feet deep; insert the post, brace it to hold it plumb, and then pour concrete around the base.

Alternately, you can sink two vertical posts about four feet apart and then cut matching mortises at knee level and just above shoulder level. These mortises are cut sideways through the posts to accept horizontal support boards. Traditionally, these boards are about 1 inch thick by 3 to 4 inches wide and made of springy hardwood. Since hardwood is pretty expensive these days, I usually substitute 1x4s of softer wood or, for a really heavy-duty dummy, 2x4s. If you scavenge a bit, you may be able to find a hardwood pallet that will provide usable hardwood supports. Alternately, you can cut two 4- to 6-inch-wide strips of 3/4-inch plywood and glue them together to yield laminated supports that are both flexible and strong.

For post material, 8-foot 4x4s or 2x6s (with the narrow edges facing forward) work very well. These allow you to bury about 2 feet of the post into the ground, leaving 6 feet above ground for the dummy frame. To make sure that your posts are well anchored, check your local building code and find out how deep the holes for deck posts must be. In cold climates, this depth is based on the depth of the frost line. By extending below the frost line, you can ensure that your post base will not loosen as temperatures change. Also, it's a good idea to use pressure-treated lumber for your outdoor dummy parts to better withstand the effects of nasty weather.

To cut the mortises, first measure the thickness and width of the horizontal support boards you will be using and transfer these dimensions to the side of one of the posts. Make sure the horizontal boards will be oriented edge up and draw a rectangle of the appropriate size in the center of the thickness of the post. Now

use a paddle bit to drill holes slightly smaller than the width of the rectangle completely through the post. To keep from chipping the wood on the opposite side, drill until just the pilot point of the drill penetrates the opposite side of the wood and then finish the hole by drilling from that side. These holes will remove most of the wood, and some careful work with either a saber saw or wood chisel will complete the mortise. The fit of the finished mortise should be snug but not too tight. **(Figures 1 & 2.)**

Now finish the second mortise on the same post following the same steps. Once you've finished both mortises on one post, insert one of the horizontal pieces (preferably one that is straight as possible) through the lower mortise so its end touches the other post. Place a level on top of this piece and adjust the height of the free end of the horizontal board until it is level. Then mark the height for the top and bottom of the mortise on that post. Repeat this process for the upper mortise and cut the mortises for the second post.

By cutting both mortises in one post and then transferring their locations to the other post with a level, you can ensure that your horizontal supports will be level even if the ground is not. It is also much easier than cutting the mortises first and then trying to keep them level while the concrete is hardening.

Now insert both horizontal supports through the mortises and trim them off so about 6 to 8 inches extends outside each of the vertical posts. If the fit in the mortises is a little loose, you can cut slim wooden wedges and drive them in above or below the horizontal pieces to tighten the fit. Alternately, you can drill 3/16- to 1/4-inch holes vertically through the horizontal boards (edge to edge) just outside the vertical posts and insert metal or wooden pins into the holes to keep the boards from drifting sideways. This method generally provides a little more play and can give the dummy a more lively feel.

Once you have completed your outdoor frame and your dummy, it's a good idea to disassemble everything and spray all your parts with a high quality deck sealant. This will keep everything waterproof and prolong the life of your dummy.

There are several problems with outdoor dummies. First, they have to be outside. This means that all your practice must also be done outside and that you and your dummy will be constantly exposed to the elements. Also, this is a very permanent and labor-intensive form of installation. Finally, if you sink the actual dummy post into the ground, you end up with what is called a "dead"

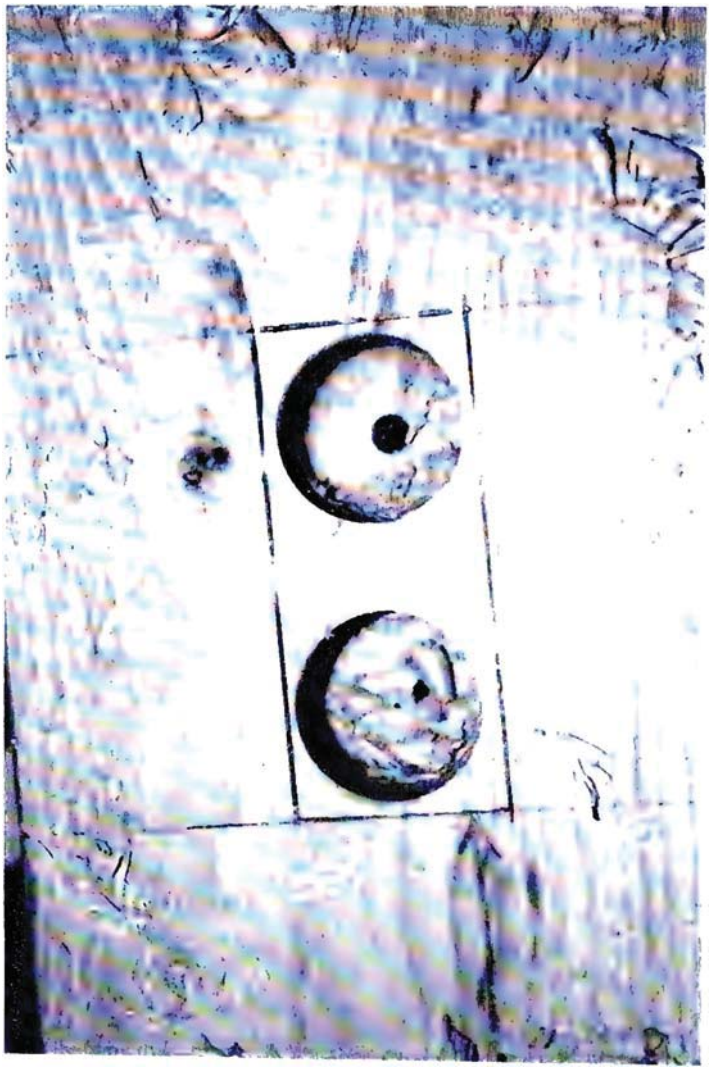


Figure 1. To cut the mortises for the horizontal supports, first lay out the locations and then use a paddle bit to drill holes through the area to be removed. To avoid splintering, drill one side until the point of the bit penetrates the back. Then turn the board over and finish drilling from the other side.

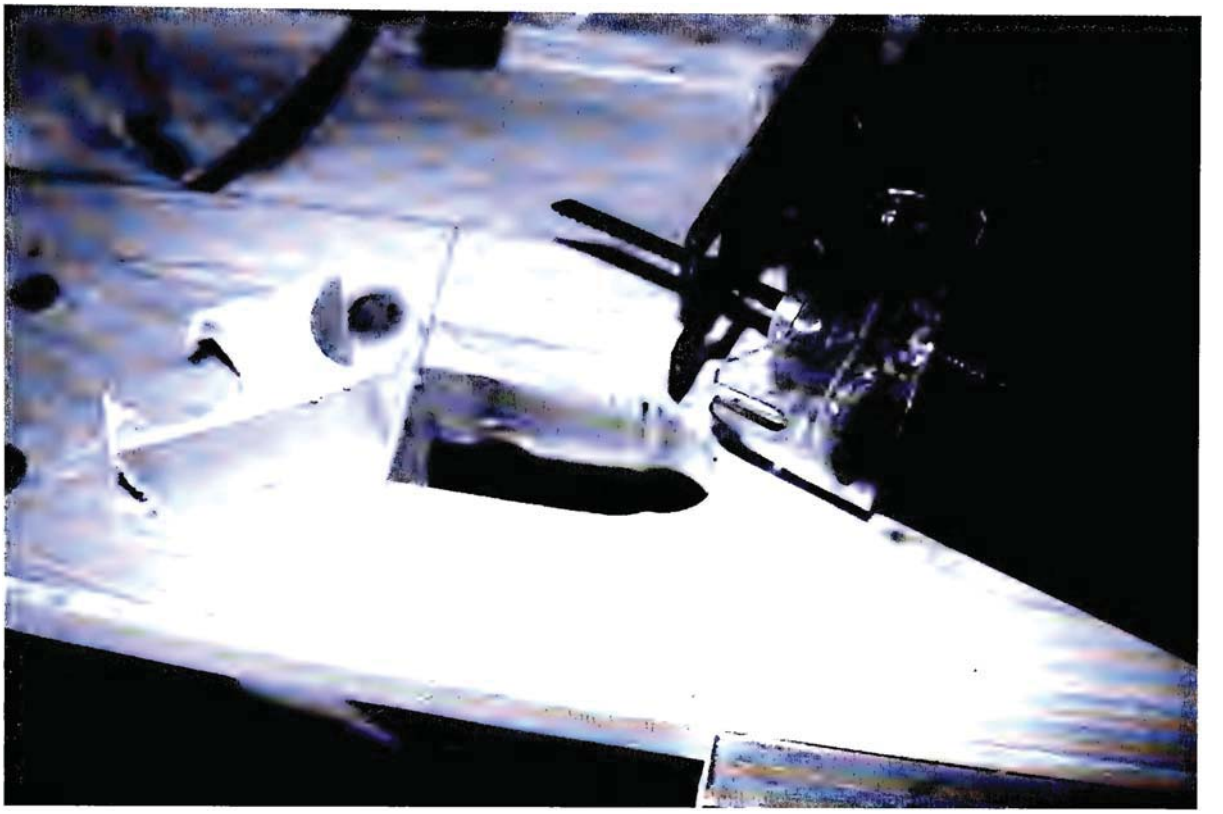


Figure 2. Once the holes are drilled, use a saber saw to cut the mortises to shape. Final fitting is done with rasps and files.

dummy. It does not move or flex when you hit it, making it less useful as a training device and much less pleasant to hit. **(Figures 3 & 4.)**

FLOOR-MOUNTED DUMMIES

Floor mounted dummies are the indoor version of in-ground dummies. They are typically constructed by screwing or bolting the dummy body or a supporting frame to a sturdy wooden or concrete floor.

The simplest method of constructing a floor-mounted dummy is to cut the bottom of the post you will be using for your dummy body flat and even. Now purchase four extra-large "L" brackets from your local hardware store. You'll want thick steel brackets with legs at least 10 to 12 inches long. Using heavy wood screws or lag screws, secure these brackets to the base of the post in the 12, 3, 6, and 9 o'clock positions, making sure that the free legs of the brackets are flush with the base of the post. Now stand the post up in the desired mounting location and use lag screws to anchor all the brackets to the floor.

Once again, by locking the dummy body down securely in this way, you'll end up with a "dead" dummy that is awfully hard on your hands and feet. A better solution is to construct a freestanding frame and attach the base of the frame to the floor.

The vertical posts of the freestanding frame are constructed in the same way as the in-ground frame—just eliminate the extra two feet of length that would extend into the ground. For this type of frame, I've found

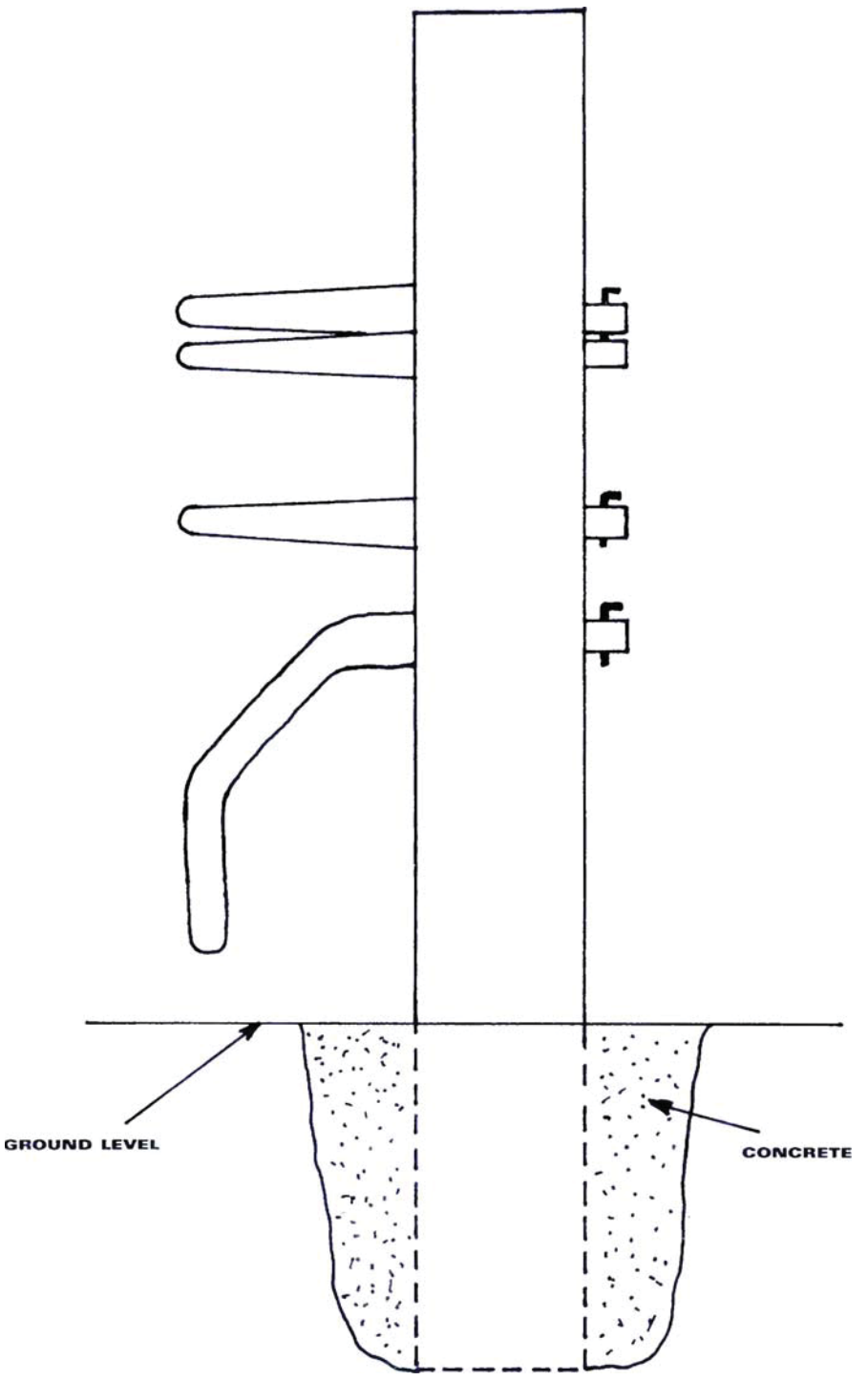


Figure 3. The simplest way of mounting a wooden dummy is to sink the dummy post into the ground. This type of mount results in a "dead" dummy that can be very hard on the user.

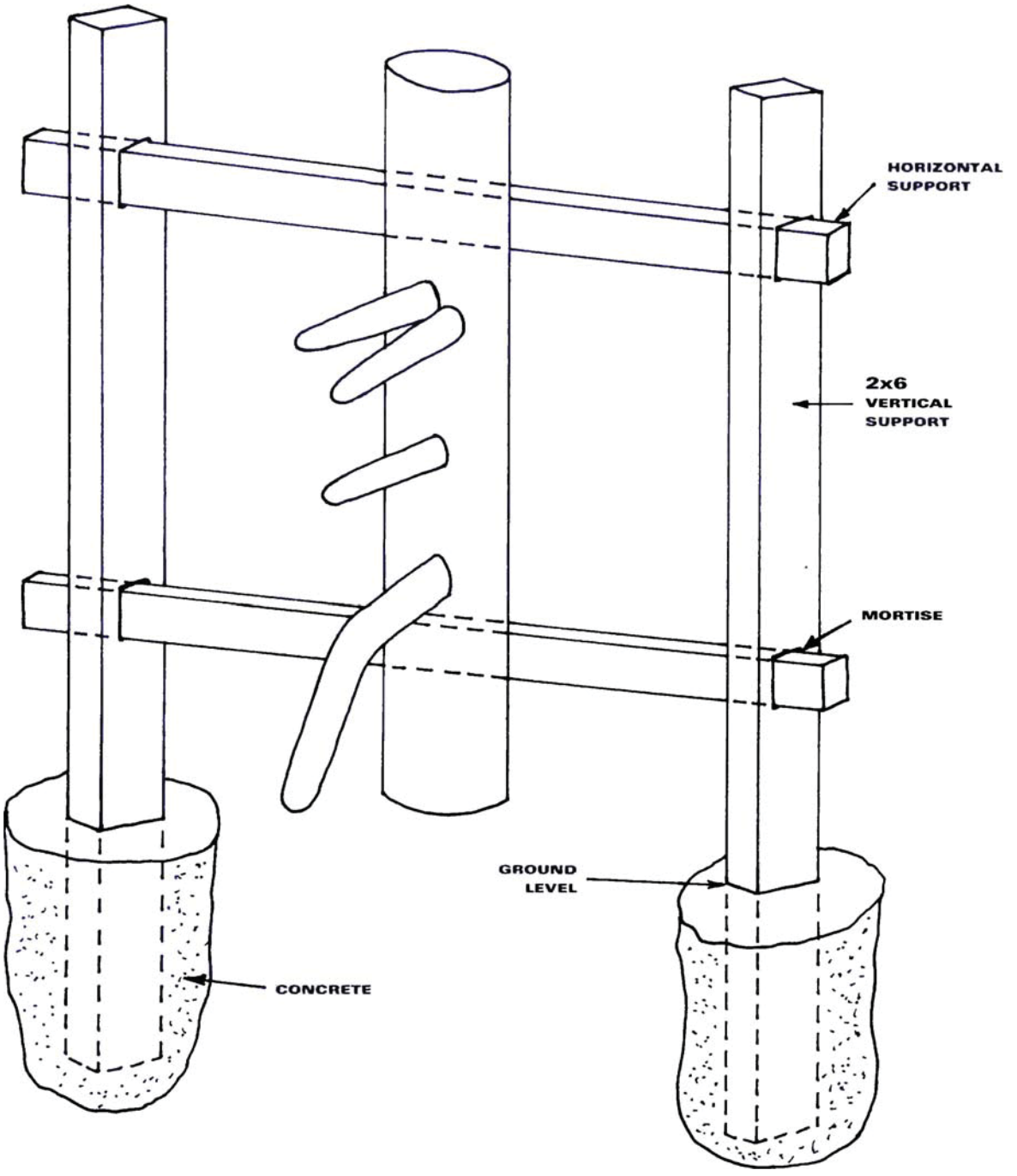


Figure 4. A traditional "live" wooden dummy frame consists of two vertical supports about 6-feet tall with mortises cut through them at knee height and just above shoulder height. Horizontal supports are inserted through these mortises to support the dummy and absorb the shock of powerful strikes. This design may also be anchored into the ground by using longer vertical supports, as shown here.

that 2x6 boards work best. Again, it is best to cut both mortises in one piece first, then transfer these to the other piece to ensure proper alignment. You should end up with a set of posts about 6 feet tall with mortises cut at knee level and just above shoulder level.

Once the vertical supports are complete, get two pieces of 2x10 lumber about 6 feet long. Lay one of the vertical supports flat on the floor with the base toward you and the outside face of the board up. Then lay one of the 2x10 bases over it at a right angle so the near edge of the 2x10 is flush with the bottom of the vertical support (like an upside down "T"). The vertical support should be centered along the length of the base piece or slightly forward of center. Using a carpenter's square to keep the pieces at a right angle, drill four 3/8-inch holes in a square pattern through the overlapping pieces of wood. Secure the pieces together with 3/8-inch carriage bolts, flat washers, and nuts. Repeat this process with the other vertical support and 2x10.

Now stand the vertical supports upright and insert the horizontal pieces through the mortises. The frame should stand easily and be relatively sturdy. Use a pencil to draw a taper on one of the 2x10 bases from a point an inch or two in front of the vertical support down to the front "toe" of the 2x10. This may be a straight taper or a decorative curve. Repeat this process on the rear section of the 2x10. Also, take the time to mark the front edges of the vertical supports, identifying them as left and right sides, and mark the 2x10 bases to identify front and back, top and bottom, and left and right sides. Then disassemble the frame and use a saber saw to cut the tapers on the marked 2x10.

Once the tapers are cut on the 2x10, lay it over the other 2x10 (making sure to keep both pieces properly oriented with respect to front/back and top/bottom) and trace the outline of the tapers onto that piece. Cut the tapers on the second 2x10 and finish the cut edges on both boards with rasps, files, or a belt sander.

Finally, reassemble the frame and stand it upright. Using an extra long 1/4-twist drill (available from most hardware stores), drill holes vertically through the 2x10 bases about 8 inches from the front and rear ends of each piece. Use a piece of scrap wood under the 2x10s to keep from drilling into the floor. Now place the frame in the desired mounting location and use the long drill bit or a pencil to mark the hole locations on the floor.

If you are mounting the dummy to a solid wooden floor, drill pilot holes in the floor and use long 1/4-inch lag screws and flat washers to secure the 2x10 bases to the floor (make sure that at least 1 1/2 to 2 inches of the screw thread extends into the floor). If you have access to the underside of the floor (via a basement or crawlspace), you can drill 1/4-inch holes through the floor and secure the bases with long carriage bolts or 1/4-inch all-thread rod with appropriate nuts and flat washers. Finally, if you are mounting the base to a concrete slab, get a 3/8- or 1/2-inch masonry bit and use it to drill your mounting holes. Line the holes with lead shields and secure the bases with long 1/4-inch lag screws.

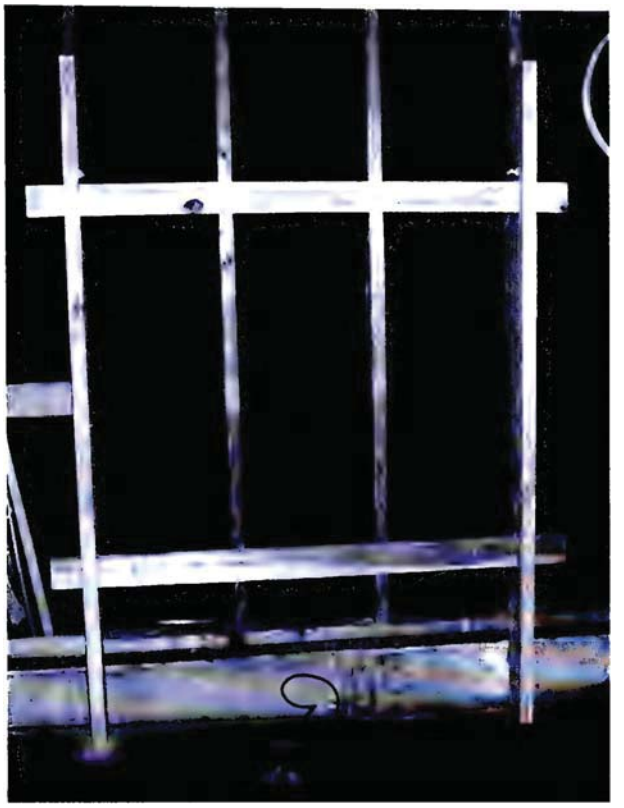
Although not as aesthetically pleasing as mounting right through the bases, it is also possible to use heavy steel "L" brackets to attach the bases to the floor.

THE RIGID WALL FRAME

A rigid wall-mounted frame is probably the most common type of support frame used for wooden dummies. This system is ideal for garages or other buildings with exposed studs or flat brick walls. **(Figure 5.)**

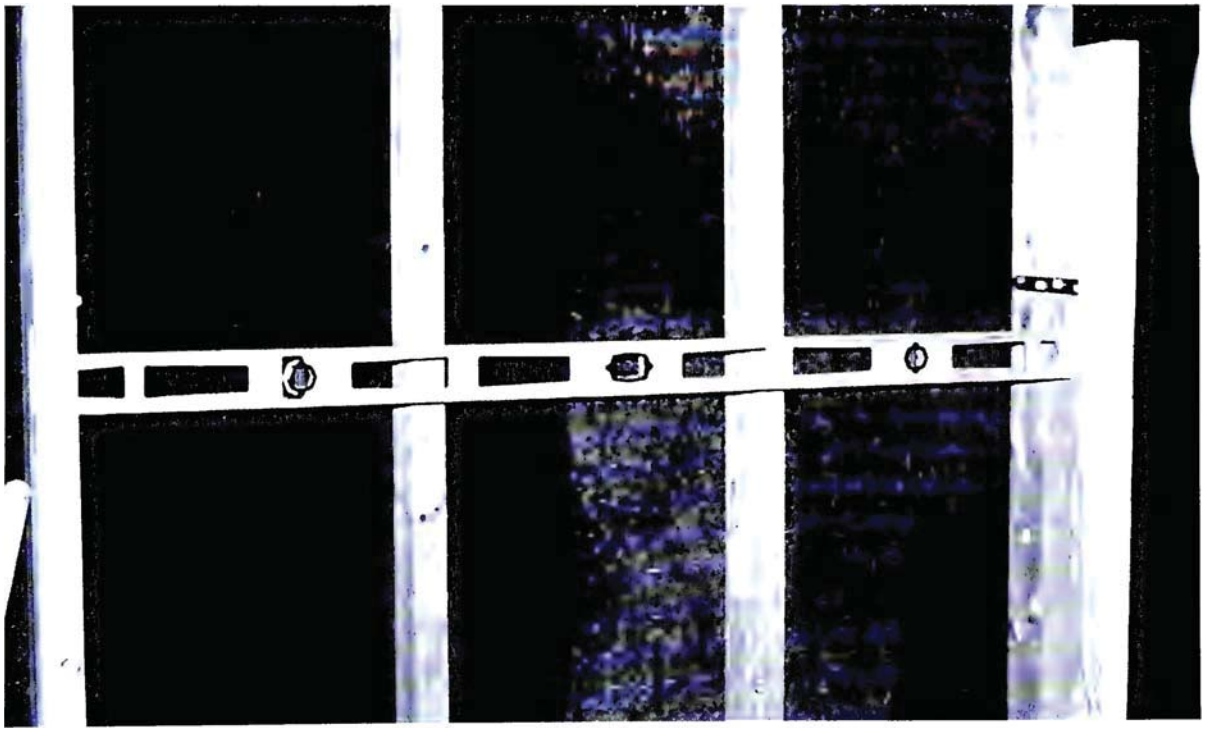
To make a wall-mounted frame, first make two 2x6 vertical supports using the methods described in making a floor-mounted frame. Once these supports are cut to length and the mortises are completed, stand them against the wall in the desired mounting position. If you are mounting to exposed studs, measure the distance between the outside edges of the studs, add 12 to 16 inches, and cut your horizontal supports to length. Insert the horizontal pieces through the mortises, stand the frame in position against the wall, and check the level of the horizontal supports. If they are not level, use scrap wood to raise one of the vertical supports until proper level is achieved. **(Figure 6.)**

Using 3/4 x 6-inch steel mending braces and 1/4 x 1 1/2 lag screws, secure the vertical supports to the studs. Place at least one brace near the top of each vertical support and one near the bottom. For more



LEFT: Figure 5. The traditional mounting frame may also be attached to a wall, as shown here.

BELOW: Figure 6. When attaching the frame to a wall for a rigid wall mount, it is best to attach one vertical support first. Once it is in place, place a long level (or a short level and one of the horizontal supports) through the mortises and shim (or trim) the second vertical post until the mortises are level.



ABOVE: Figure 7. Use 6 x 3/4-inch steel mending braces and lag screws to attach the rigid wall frame to an open stud wall. The braces should be placed just above or below the mortises and on both sides of the vertical supports for maximum stability.

RIGHT: Figure 8. A detailed view of the mortise on the rigid wall mount. Note the steel mending brace mount and the tight fit of the horizontal support.

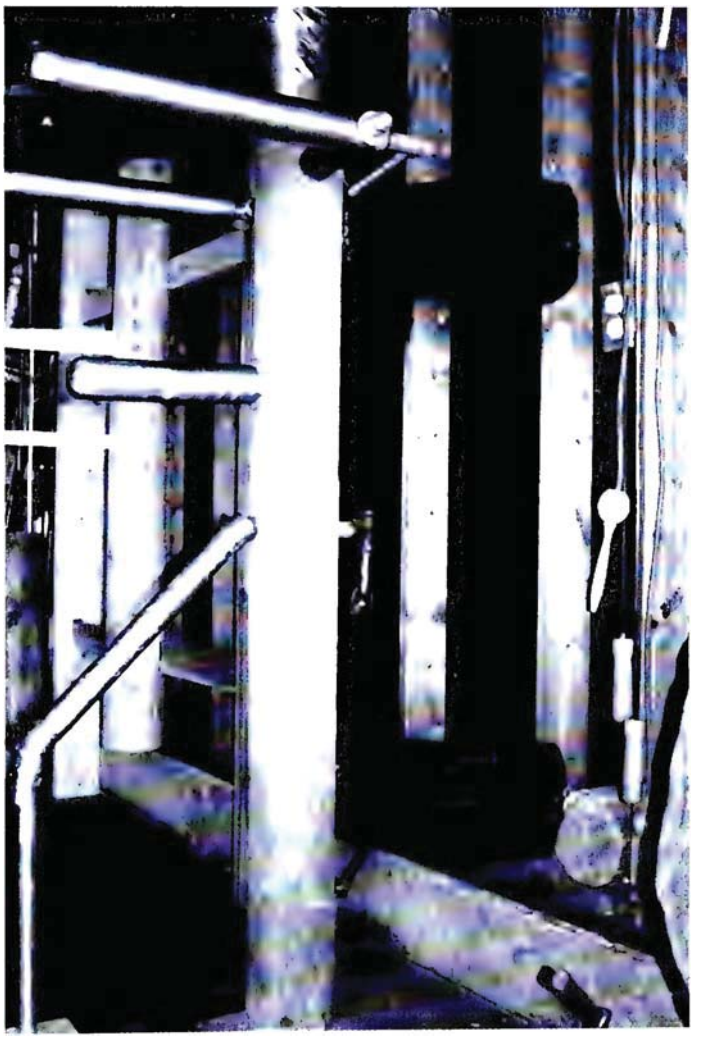
strength, use two braces on each side of each of the vertical supports, making sure to stagger them. Also, make sure to drill 5/32-inch pilot holes for all the holes to avoid splitting the wood and make installation of the lag screws easier. **(Figures 7 & 8.)**

As mentioned previously, if there is any slack in the fit of the horizontal pieces in the mortises, you can use wooden wedges or holes and pins to keep the pieces from drifting out of place.

The rigid wall frame can also be mounted to a wall that is covered with drywall or paneling. First, use a stud finder to locate the studs you would like to use for mounting. Then, instead of mending braces, use sturdy steel "L" brackets to mount the frame. One leg of the bracket is screwed into the wall stud and the other into the side of the vertical support. Alternately, you can attach the vertical supports to a large piece of plywood by screwing through the back of the plywood into the supports. The plywood is then screwed into the wall studs. This method is very sturdy and can prevent damage to drywall if the dummy is hit exceptionally hard.

THE FLEXIBLE WALL MOUNT

I invented the flexible wall mount when developing my Human Response dummy. I wanted a dummy mount that would not only absorb the force of powerful hits but would also allow the dummy to rotate left and right—just like a real person does when you deflect his punch. My solution not only worked extremely well for my Human Response dummy, it turned out to be an excellent mounting method for traditional dummies as well.



The main component of a flexible wall mount is an old car tire. If possible, get a tire that is not steel belted to make cutting it a little easier.

The first step is by far the most difficult—cutting the tire in half to yield two C-shaped pieces. If you have access to an industrial metal-cutting band saw, by all means use it. If not, I've had pretty good luck using an abrasive cutoff blade (available from Black and Decker as a "metal abrasive saw blade") on my 7 1/4-inch circular saw. Wear a respirator or mask as you do this and plan on getting dirty and cursing a lot.

Figure 9. The flexible wall mount is made by cutting a car tire in half and attaching 2x6s across the cut ends. The tire is fastened to the 2x6 with deck screws and flat washers. One of these assemblies is mounted to the wall at knee level and the other just below shoulder level. The dummy post is then mounted to the front of the tires. This is an excellent mounting system that absorbs shock and allows the dummy to pivot laterally.

Once you've cut the tire in half and celebrated your achievement with a beer or two, measure the distance between the cut ends and cut two 2x6 boards to that length. Using 3-inch deck screws, mount these boards horizontally so they are secured to at least two wall studs (for covered walls, use a stud finder to determine stud location). One board should be mounted at knee level and the other should be mounted just above or just below your shoulder level.

Now place one of the tires so the cut ends cover the ends of one of the 2x6s. Using 3-inch deck screws and flat washers, secure the ends of the tire to the ends of the 2x6. The easiest way to do this is to start all the screws in the tire so a little bit of the screw tip protrudes. Drive all the screws in just enough to hold and then back them out and use the started holes as guides for drilling pilot holes. The repeat this process for the other 2x6 and tire half. **(Figure 9.)**

To mount the dummy, get two heavy steel mending braces plates about 4 to 6 inches long. Place the plates over the center of the face of the tire and use the holes in the plates as guides to drill 3/16-inch holes through the tires. Now place the plates on the inside of the tires and use lag screws or 3-inch deck screws and flat washers to attach the post to the face of the tires (the screws pass through the metal plates on the inside of the tire, through the tire tread, and then into the post). The metal plates keep the screw heads from tearing through the tire tread and provide better lateral stability to the post. The result is an excellent (and very quiet) shock-absorbing mount that allows the dummy to turn with just the right amount of resistance. **(Figure 10.)**

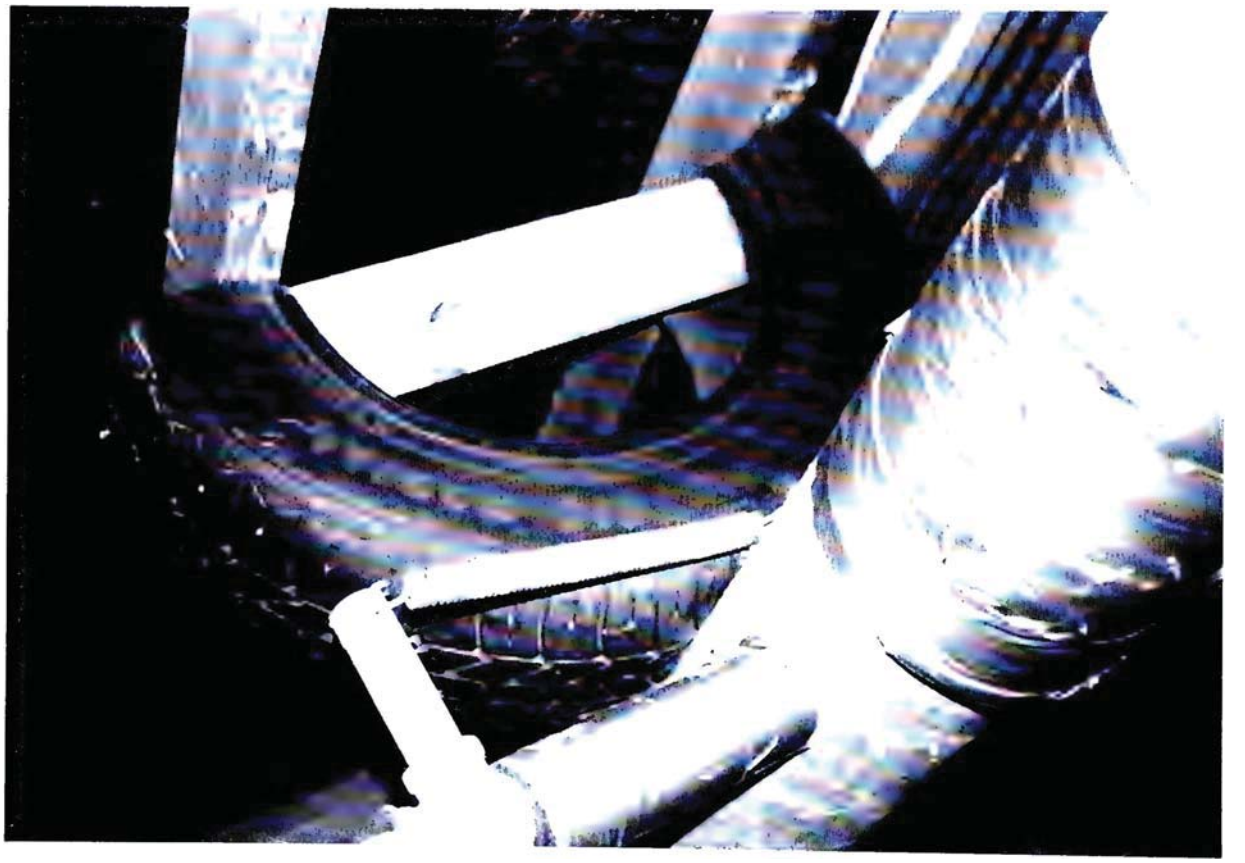


Figure 10. A close-up view of one flexible wall mount assembly.

FREESTANDING DUMMY MOUNTS

If you have no place to mount a dummy to a wall or floor, or you need to move your dummy frequently, you may need a freestanding mount. I have used two types of freestanding mounts with great success. The first is a T-shaped frame made from 2x4s. This type of frame requires a solid wood post for the dummy body. **(Figure 11.)**

To make this type of mount, cut the dummy post to length so the bottom of the post is flat and square. Determine the front face of the post and draw a centerline from front to back on the bottom of the post. Measuring 1 1/2 inches in from each edge, draw two more lines on the bottom of the post parallel to the centerline. Measure 3 1/2 inches up from the bottom of the post and mark each side of the post. These marks will act as guides to cut the notches for mounting the base pieces. Using a hand saw, cut into the end grain of the post on the two marked lines (not the center line) until you reach a depth of about 3 1/2 inches. Then cut down through the sides of the post at the marks until the cuts meet at a right angle. This should produce a shouldered notch on each side of the base. **(Figure 12.)**

Lay the post on its side and place an 8-foot 2x4 into the top notch so one end is flush with the front of the dummy base and the rest of it extends away from the back face of the dummy. This is one of the two base pieces. Use a carpenter's square to check the angle between the post and the 2x4. It should be 90 degrees or slightly less. Drill pilot holes on the upper right and lower left corners of the overlapping area and secure the pieces with 3-inch deck screws.

Now flip the dummy over and repeat the process with a second 2x4. By following the "upper right/lower left" pattern, you will avoid having the deck screws meet inside the post.

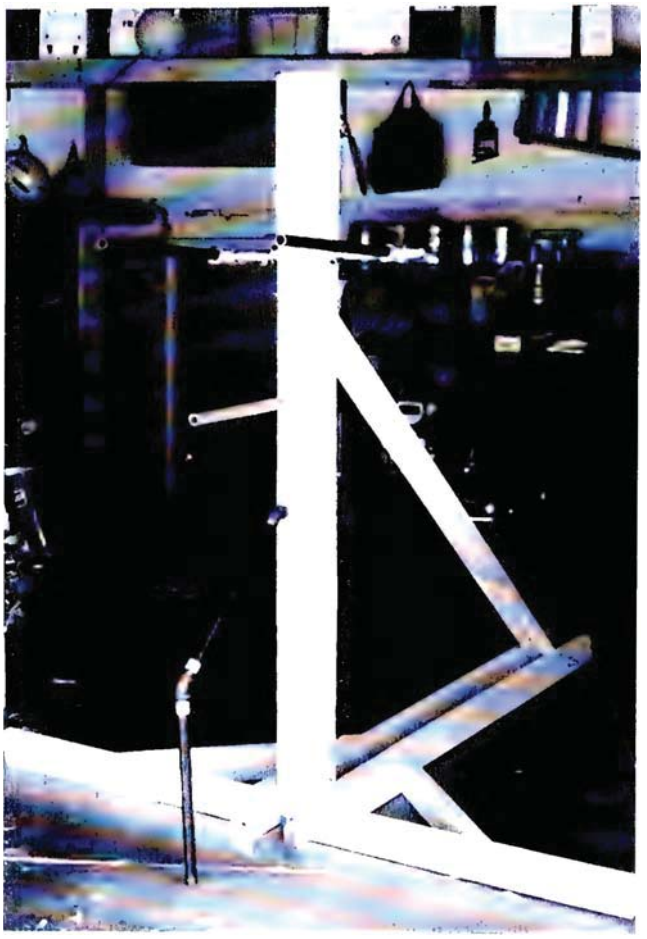
With the dummy still lying on its side, measure up about 5 feet from the bottom and make a mark on the back face of the post. Using a handsaw, cut a 90-degree notch (two intersecting 45-degree cuts) about 1 1/2 inches deep at this mark. Take another 8-foot 2x4 and place one end into this notch (with the wide dimension horizontal) and the other end sandwiched between the 2x4 base pieces. This will be the diagonal brace. Position the brace so it is at a 45-degree angle to the post and mark a line even with the bottom edges of the 2x4 base pieces. Then cut the brace on that line. **(Figure 13.)**

Attach the brace into the notch in the post with two 3-inch deck screws. Align the cut edge on the bottom of the brace with the bottom edge of the base pieces and secure it from both sides with 3-inch deck screws. Alternately, you can drill a 3/8-inch hole through all three pieces and secure them together with a length of 3/8-inch all-thread rod. **(Figure 14.)**

Stand the dummy upright on a flat surface (bracing it if necessary) and place an 8-foot 2x4 on edge across the front ends of the two base pieces. Make sure the post is in the exact center of this 2x4 front piece. Drill pilot holes through the front piece into the ends of each of the base pieces (two holes each). Now secure the front piece to the ends of the base pieces with 3-inch deck screws.

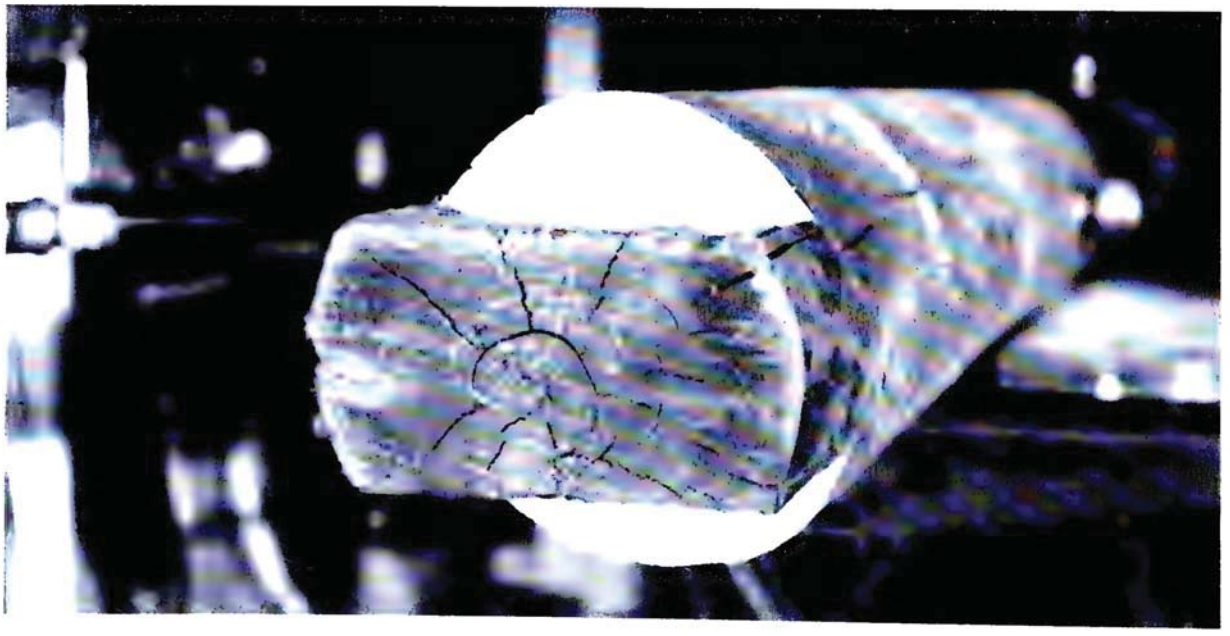
Finally, cut two 4-foot lengths of 2x4. With these 2x4s laid on edge, cut 45-degree bevels on each end so they are angled toward the center of the board. Place these short diagonal braces between the front piece and the base pieces and secure both ends with two 3-inch deck screws. The finished base should look like a large letter "T" with diagonal braces on each side.

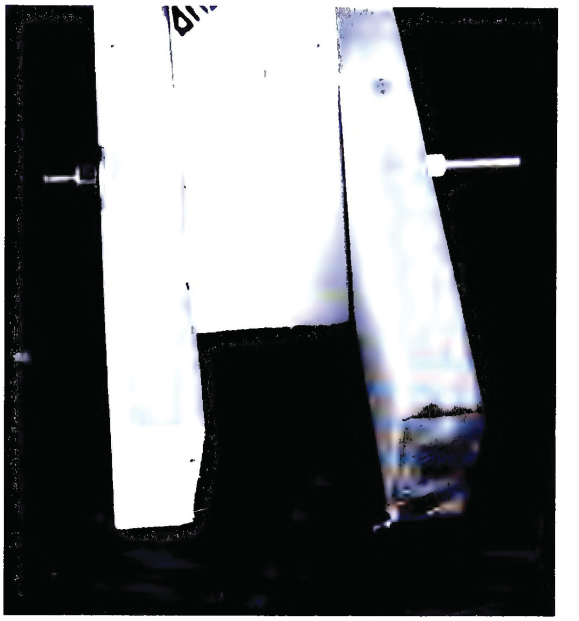
If you are really cramped for space, a variation of this base design will allow you to store your dummy flat (or nearly flat) against a wall when not in use. Once you've attached the base 2x4s and the diagonal brace, stand the dummy upright on a flat surface (again, bracing it if necessary) and set the front piece in place. However, instead of attaching the front piece directly to the base pieces, cut two 4-foot 2x4s and place them on edge on the outside of the base pieces (one on each side of the base). Drill pilot holes through the front piece into the ends of these short base pieces and attach them with deck screws. Then cut short diagonal braces and attach them on each side between the front piece and the short base pieces, leaving a few inches of the short base pieces beyond the end of the brace. Finally, clamp the short base pieces to the long base pieces with C-clamps and drill 1/2-inch holes through each of the double layers of 2x4. These holes should be drilled about 1 foot behind the dummy post and near the end of the short base pieces. If you succeeded in keeping these holes



RIGHT: Figure 11. One type of freestanding dummy mount is this T-shaped mount made from ordinary 2x4s. Despite its simple construction, it can easily withstand full-force kicks.

BELOW: Figure 12. The dummy post must extend all the way to the floor for the T-shaped mount. Once the post is cut to length, cut notches in the sides of the post to attach the 2x4 base pieces.





LEFT: Figure 13. The diagonal brace supports the dummy post from the rear. The top end is fitted into a notch cut in the back of the post and secured with 3-inch deck screws.

ABOVE: Figure 14. The bottom end is attached to the base pieces with a piece of 3/8-inch all-thread rod, flat washers, and nuts. The bottom end can also be secured with deck screws if desired.

aligned through all four layers of 2x4, you can then attach everything with two pieces of 1/2-inch all-thread rod about 16 inches long. These rods are passed through one short base piece, both base pieces, and the other short base piece and are secured on both sides with flat washers and nuts. One rod is inserted through the series of holes behind the post and the other through the series of holes near the end of the short base pieces.

If you did not get all your holes aligned well enough to use the all-thread, use a 1/2-inch carriage bolt, flat washer, and nut through each of the paired holes in the bases and short bases.

To store this dummy, simply remove the threaded rod or carriage bolts. This will allow you to separate the unit consisting of the front piece, short bases, and short diagonal braces from the rest of the dummy. These two components can then be stored against a wall, out of the way. **(Figures 15 & 16.)**

The "T-frame" dummy mount is extremely durable and will easily withstand the most powerful hits and kicks. When placed on a smooth floor, however, you may find it has a tendency to slide a little. By stacking sandbags on the base pieces or placing the rear ends of the base pieces into a corner, you can eliminate this problem.

Another type of freestanding dummy is based on the floor-mounted frame described earlier. As you may recall, this frame was identical to the rigid wall-mounted frame, except that it had 2x10 bases attached to the vertical supports to give it support on the front-to-back axis. **(Figure 18.)** Although it is possible to use this type of frame alone as a freestanding support, it is not very sturdy and will not withstand a hard hit. To make

it sturdier, yet still allow it to remain free standing, place it on a sheet of 5/8 or 3/4-inch plywood so the bases are just inside the long edges of the plywood. The rear ends of the bases should be a few inches from one end of the plywood. Once the frame is in position, trace around the bases with a pencil. **(Figure 19.)**

Now take the frame off the plywood and remove the bases from the frame, carefully noting front/back ends and left/right sides. Drill 1/8-inch holes every 8 to 12 inches in the center of the outlined areas on the plywood; then turn the plywood over. Align one of the bases in its outlined area and drill a pilot hole into the bottom of the base using one of the holes in the plywood as a guide. Secure the base to the plywood by putting a deck screw through the bottom of the plywood into the edge of the base. Check the alignment of the base within its outline and repeat the process until the base piece is firmly screwed to the plywood. Then do the same for the other base piece.

Finally, turn the plywood over and mount the vertical supports of the dummy frame to the base pieces. The weight of the plywood alone will easily stabilize the dummy frame. However, when you stand on the plywood to use the dummy, your body weight will help anchor the dummy even more, allowing it to withstand extremely powerful strikes without damage or movement. This is one of the most elegant wooden dummy mounting methods and an excellent choice for apartment dwellers.

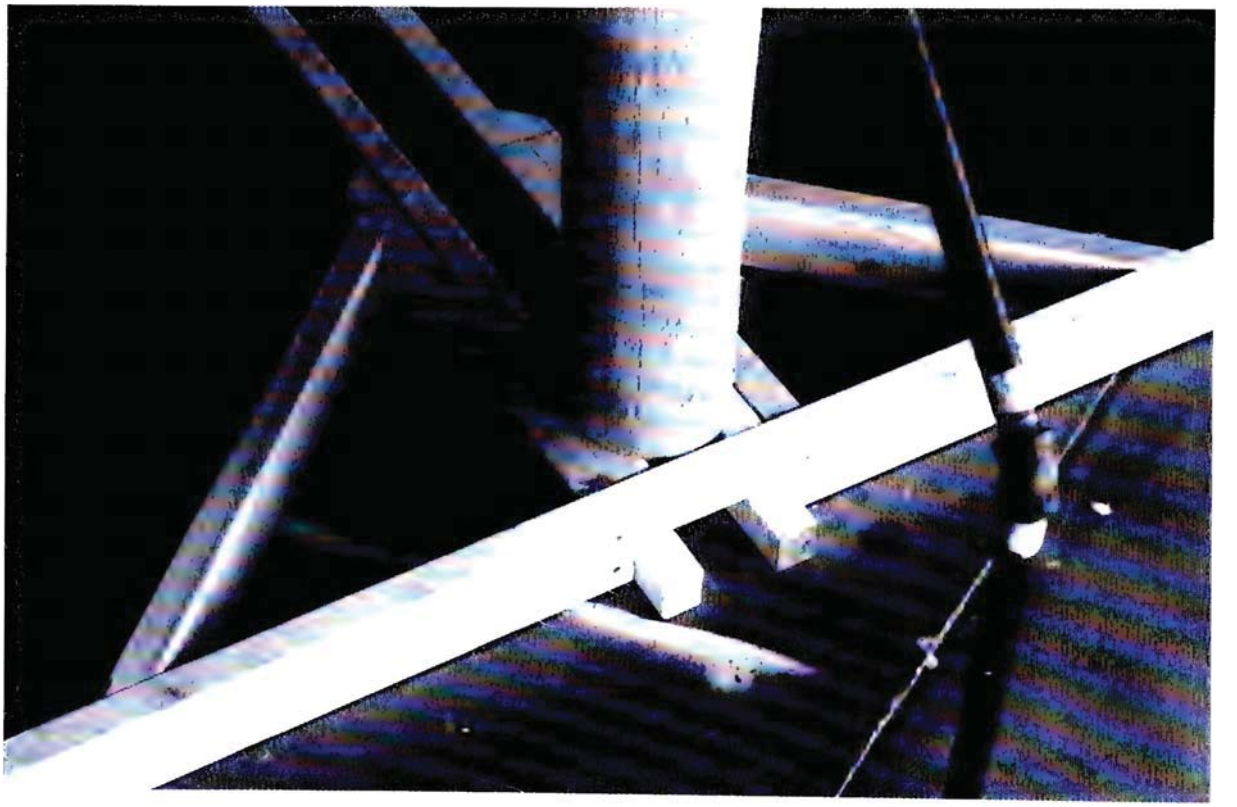


Figure 15. If you would like to be able to store your dummy and T-shaped base flat against a wall, you can make the front piece and short diagonal braces removable. The front piece and short diagonal braces are attached to two short base pieces with wood screws. The short base pieces fit on each side of the base pieces and are attached with all-thread rod (not yet installed). Note that the front piece on this dummy has been notched to accept notched and extended base pieces. This allows a 2x4 "foot" to be mounted at the base of the post to practice foot traps and stomps.

LEFT: Figure 16. This close-up shows how the short base pieces fit outside the base pieces. From this angle, you can also see how the shouldered notches in the post fit the base pieces.

BELOW: Figure 17. This view shows the 2x4 "foot" in place and one of the all-thread rods installed (near the ends of the short base pieces). To finish the base, install another all-thread rod several inches behind the dummy post.

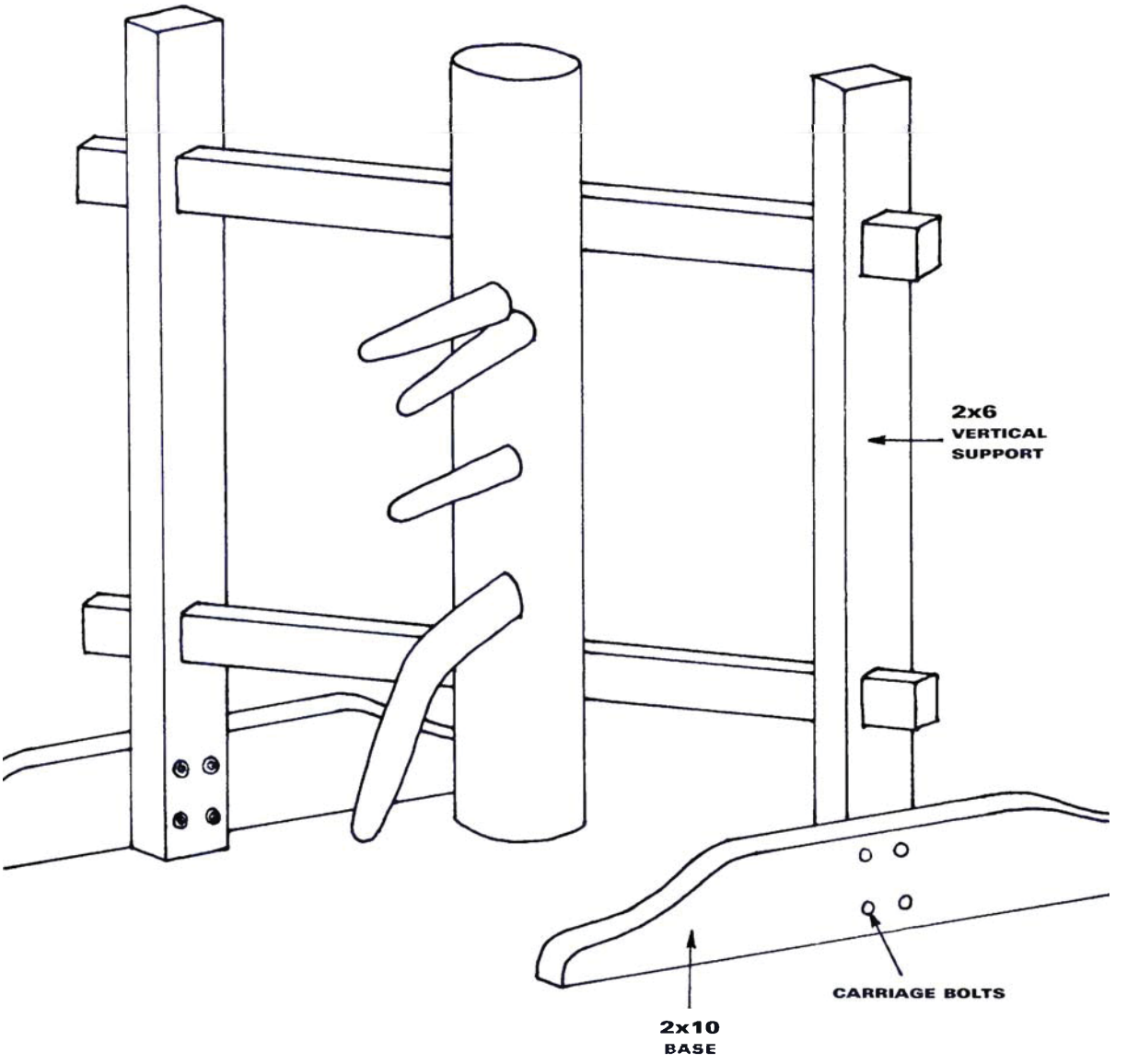


Figure 18. The traditional rigid wall frame can be made into a freestanding frame by attaching 2x10 bases to the vertical supports with carriage bolts. In this configuration, the dummy can only be used for light contact training. To anchor it for heavier training, the bases can be secured to the floor with lag screws, all-thread rod, or "L" brackets.

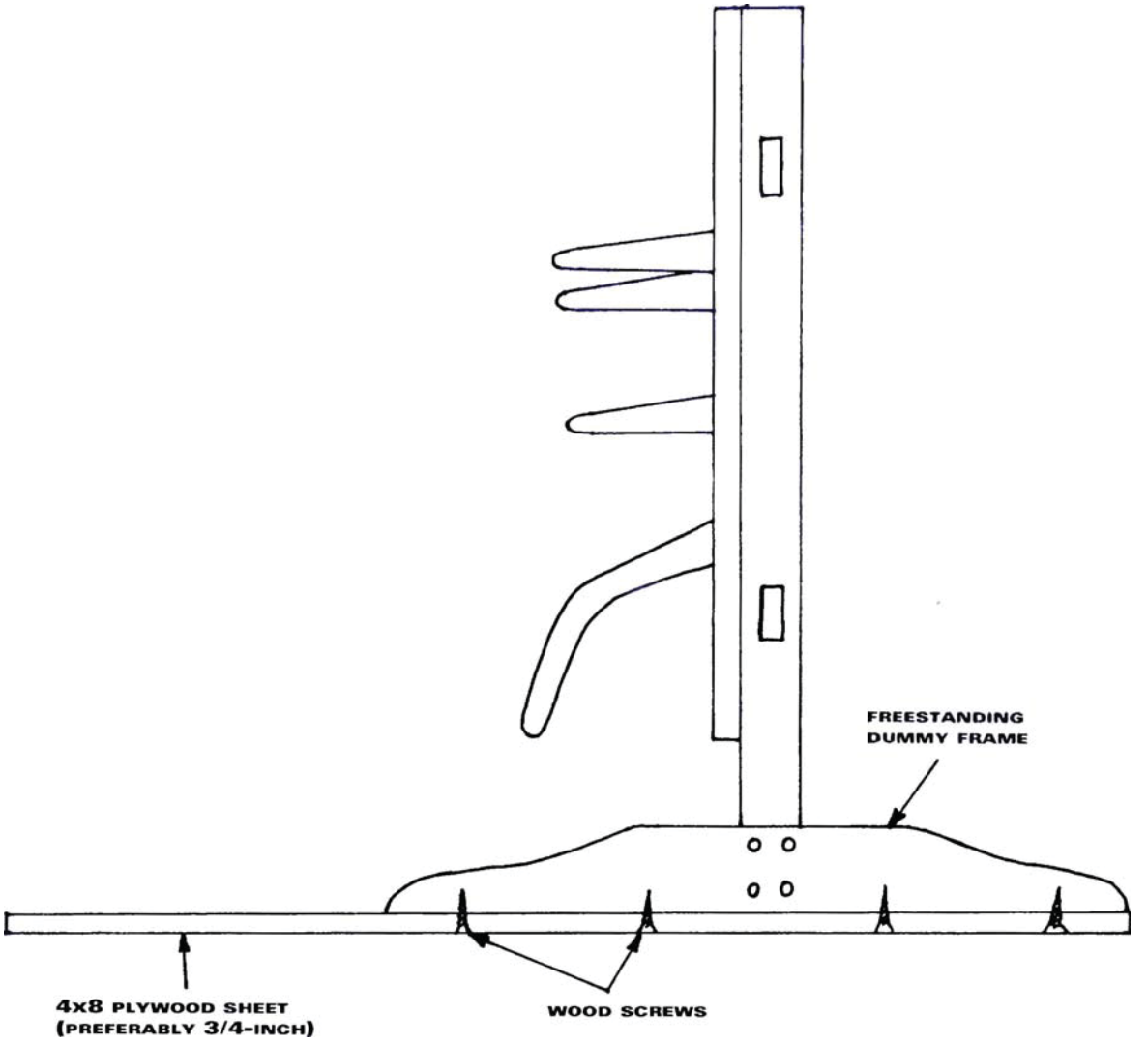
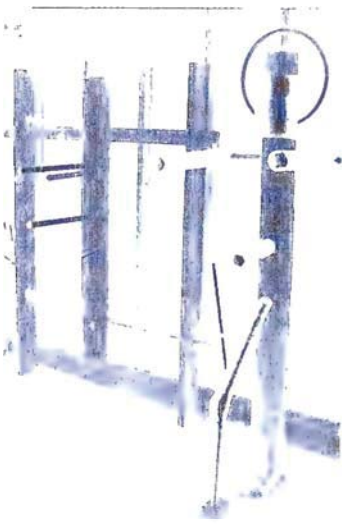


Figure 19. An excellent base can also be made by attaching this frame to a 4x8 sheet of plywood. The weight of your body standing on the plywood actually helps stabilize the frame during use.

CHAPTER TWO

DUMMY CONSTRUCTION



Once you've selected and constructed a dummy mounting system, it's time to start working on the dummy itself. But before we look at specific wooden dummy designs, we need to understand the purpose of the dummy.

Basically a wooden dummy is a training aid that allows you to practice blocks, parries, strikes, punches, kicks, and whatever other martial arts techniques you typically employ in as realistic a fashion as possible. To do this, the dummy you use needs to be constructed in proportion to your body or the body of the most likely opponent you will face. This is one of the major disadvantages of the commercial wooden dummies imported from Asia.

Although imported dummies are handsome and very well made, they are designed to represent the typical Chinese martial artist—a person about 5 foot 6 to 5 foot 8 with a significantly shorter reach than most Westerners. If your stature is comparable to this or you anticipate fighting a lot of short people, you're in good shape. For the rest of us, the utility of imported models is somewhat lacking.

The beauty of building your own dummy (besides the fact that you are saving hundreds of dollars) is that you can build it in proportion to your size, the size of your average student, or the size of your most feared opponent. The choice is up to you.

Since we're tailoring our home-built dummies to our needs, we also are not bound by convention when it comes to dummy design. If you are a traditional wing chun stylist and want a traditional dummy, I'll show you how to build one. However, if you are more of a freestyle fighter with a different arsenal of techniques, don't be afraid to modify your dummy's design to allow you to practice the way you want to. **(Figure 20.)**

BUILDING A WING CHUN MOOK JONG

First let's look at what is probably the most common type of wooden dummy in use today: the wing chun mook jong. In its traditional form, the wing chun mook consists of a central post, two arms at shoulder level, one arm at navel level, and a bent leg extending from either hip or knee level. Typically all parts are constructed of solid or laminated hardwood and retained by pins that pass perpendicularly through holes in the rear ends of the limbs. The shanks of the limbs—the portions that are inserted through the dummy body—are traditionally square in cross section, requiring square holes in the dummy body. In some examples, the dummy body is made of solid wood, while others are made of laminated hardwood sections to create a hollow core.

While it is certainly possible to make a home-built wing chun mook jong in its pure traditional form, by taking advantage of modern materials and modifying the design slightly, you can make the job much easier. Let's look at this method first; then I'll describe some of the traditional details for the hard-core purists out there.

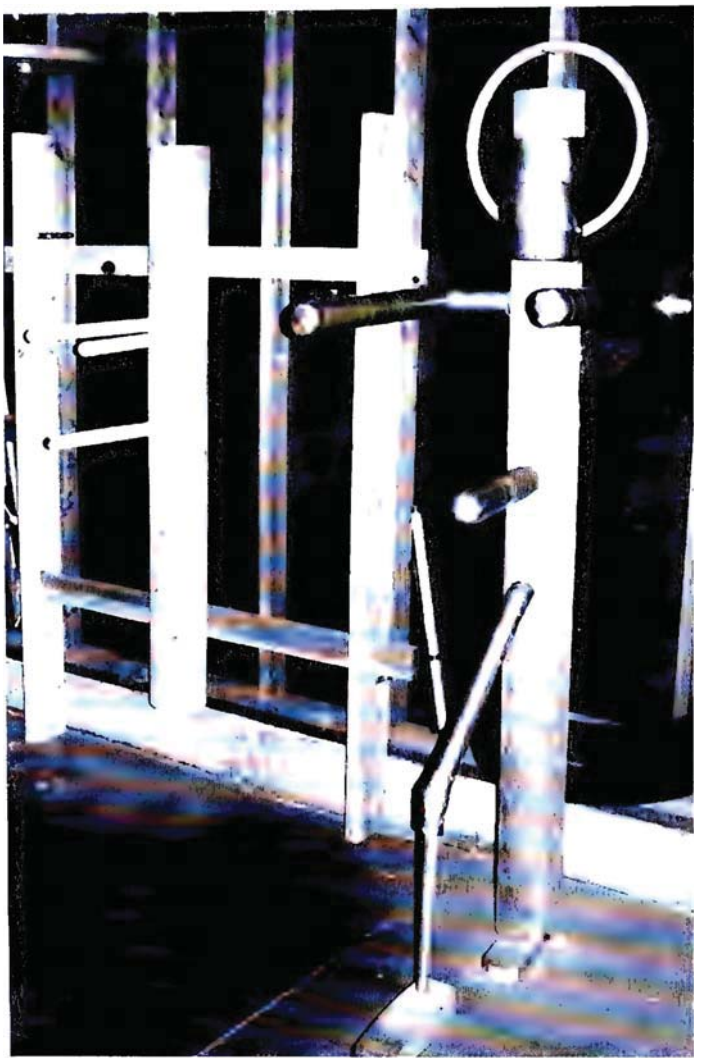


Figure 20. The two types of dummies that will be discussed in this section are the traditional wing chun-style mook jong (shown mounted to a rigid wall frame at left) and the author's Human Response design (mounted to a flexible wall mount on the right).

Traditional Wing Chun Mook Jong Parts List

- 6-inch diameter wooden fence post, 8 feet long (1—dummy body)
- 3/4 x 24-inch steel plumbing pipe, threaded at both ends (3—for dummy arms)
- 3/4-inch plumbing lock nuts or pipe caps (3—arm retainers)
- 1-inch schedule 40 PVC pipe, 10 feet long (1—for arm sleeves)
- 5 1/2 x 1/4 lag screws (4—for mounting the dummy to frame)
- 1-inch fender washers (4—for mounting dummy to frame)
- 1 1/8-inch dowel rod, 3 feet long (1—for plugs at end of arms)
- #8x3/4 wood screws (6—for attaching plugs to ends of arms)
- Two-part epoxy (for attaching plugs to ends of arms)
- Bondo automotive dent filler (1 small can for filling gaps in arm sleeves)

The first step is to obtain a suitable material for the post or body of the dummy. Although solid or exquisitely laminated hardwood posts are nice, they are also extremely expensive and hard to work with hand tools. Since most woods are harder than my hands and feet anyway, I feel a hardwood post is unnecessary.

The best post material I've found is the simple 6-inch round fence post available from most home improvement centers. An 8- or 10-foot section of this material typically costs less than $15. When selecting your post, look for dry, straight pieces free of major cracks and splits.

Once you've obtained your post, it's time to cut it to length. If you are making a "dead" dummy by sinking the end of your post into the ground, cut your post to a length equal to your height plus the depth you plan to go below ground. For frame-mounted dummies, you can cut the post to your height and allow the base to rest on the floor, but this will still produce a "dead" feel. By cutting the post a bit shorter and suspending it in a frame, you will get a much more "live" feel and better shock-absorbing qualities.

In my opinion, a finished dummy should be as tall as the person using it, yet still extend low enough to allow kicks to the shin/knee level. Based on this rule, your post should be about 8 to 10 inches shorter than your height.

You can cut your post with a chain saw or good hand saw. Either way, take the time to make both ends as flat and smooth as possible.

Fence posts typically come from the lumberyard pretty rough. If you do not plan to pad the striking areas of your dummy, or if you want a dummy that is both attractive and functional, it's a good idea to finish the outside surface of the post. Place the post on a sturdy bench or a couple of sawhorses and use band clamps or bungee cords to hold it in place. A set of "V" blocks cut from scrap 4x4s will help keep the post from rolling.

Now use a jackplane to carefully plane the outside surface of the wood smooth. If desired, you can smooth the wood further with a belt sander or orbital sander. In addition to smoothing the surface of the post, you also need to round the edges around the top and bottom of the post to eliminate any sharp corners that could cause injury when using the dummy. A sander or smooth file will make quick work of this job. **(Figures 21–24.)**

Once you've gotten the post as smooth as you want it, inspect it carefully and decide which end will be the top and which side will be the front face. If there are any cracks or splits in the wood, make sure that these will not be positioned where the limb mounting holes will be located. Clearly mark the top and front face with a pencil for easy reference. If desired, fill any minor cracks with wood putty and sand them smooth.

Now lay the post flat (using "V" blocks if necessary) with the top of the post facing you and the front face facing straight up. Measure the width of the post at its widest point, divide this measurement in half and mark the center of the post. Repeat this process with the narrower sections above and below the widest point (making sure to keep the ruler level) until you have several center marks. Now connect these marks with a pencil line to form a centerline. Carefully inspect the centerline and check your measurements because this line will be used as a reference to determine the location of the holes for the dummy limbs. **(Figure 25.)**

Next, take the dummy post over to your frame (remember, you should have already finished it). Using scrap lumber or whatever else is available, support the post so the top is even with the top of your head. Then use bungee cords to temporarily secure the post to the frame.

Using a small stepladder, get up above the post so you can see the centerline clearly. With a carpenter's square or by eye, turn the post so the centerline faces directly forward, perpendicular to the frame. Also, use a level to ensure that the dummy post is perfectly plumb (straight up and down).

To mark the holes for the upper arms of the dummy, you must first determine their proper height. This is done by a process called "posting." Stand directly in front of the post, place one foot slightly forward and bend your knees slightly to assume a comfortable guard position. If you are a traditional wing chun practitioner, assume the standard wing chun "goat-riding" stance. Now extend your left arm horizontally, placing the palm on the front face of the dummy post. The upper (left, as seen from the front) arm of a perfectly proportioned wing chun dummy should be just below your arm when it is held in this position (your forearm should rest on the dummy arm). Based on this rule, make a pencil mark at the level of the bottom of your palm to indicate the height of the top arm. **(Figures 26–29.)**

Next, we'll determine the height of the bottom arm. Stand in front of the dummy post and take a deep step forward with your left foot (so your feet are about two shoulder widths apart). Place your right elbow against your ribs and extend your forearm horizontally forward in a palm heel strike. The lower arm of a perfectly proportioned wing chun dummy should be just below your forearm when it is held in this position (again, your forearm should rest on the dummy arm). Make a pencil mark at the level of the bottom of your palm to indicate the height of the top arm. **(Figures 30 & 31.)**

With the arm heights determined, we must now transfer the centerline on the top of the dummy to the face of the dummy. To do this, take a ruler or carpenter's square and align it with the centerline on the top of the dummy so the ruler extends forward. Now hold the line of a plumb bob against the side of the ruler (the one aligned with the centerline) and hang the plumb bob at the level of the top arm. Once it has settled, use the point of the plumb bob as a guide to mark the center of the post. Repeat this process for the lower arm.

Now that we have determined the levels for the dummy's arms, it's time to determine the angles for the holes. The lower arm is not a problem—it must extend straight forward so its mounting hole is drilled straight

along the centerline. The upper arms, however, must be angled outward from the centerline, yet still pass through the full thickness of the post. This presents more of a problem.

The easiest way to determine the drilling angles for the upper arms is to use the arms themselves as a guide. After much experimentation, the best way I've found to make arms is to use 3/4-inch galvanized or black steel plumbing pipe. This pipe is available at any hardware store or home improvement center in a variety of convenient lengths. For most people, I've found that 24-inch lengths threaded on both ends work well. If you have an exceptionally thick dummy post or extremely long arms, you may need 30-inch lengths. You'll also need to pick up a 3/4-inch pipe cap or lock nut for each of your arms. These will be threaded on the rear end of the arms to hold them in place instead of the traditional pins. **(Figure 32.)**

The arms of the traditional style of dummy represent the human arm from the shoulder to the elbow or from the elbow to the knuckles of the fist. When mounted on the dummy, the ends of the arms should be as wide apart as the distance between the practitioner's nipples. To determine the proper drilling angle for the mounting holes, measure the length of your arm from your elbow to the knuckles of your fist. Now take one of the pieces of pipe and measure the same distance from one end of the pipe and make a mark.

Next, stand in front of the mounted dummy post on a small stool so your chest is level with the top of the post. Make sure the center of your chest is directly in front of the centerline of the dummy. Place the marked pipe on top of the post so the mark you made is even with the front face of the dummy and the long end of the pipe is facing you (this is very important because it represents the length of the finished arm). The width of the pipe should be centered over the centerline marked on top of the post.

Now, rotate the pipe around the exact center of the post until the end of the pipe nearest you touches your left nipple (you may have to move forward or backward slightly to establish the proper distance). If you did this right, you should see equal amounts of pipe on each side of the centerline on the top of the post.

Holding the pipe in this position, use a pencil to trace a line down each side of the pipe onto the top of the post. These lines represent the drilling path for the mounting hole for that arm. **(Figures 33 & 34.)**

Now repeat the process for the other (right) arm. In this case, you will turn the pipe until the near end touches your right nipple and then trace the outline of the pipe onto the post top. If done properly, the angles between the centerline and the guide lines for the two arms should be equal. If not, backtrack and try the process again.

Once you've got the angles marked, take the dummy post down and place it in the "V" blocks, a woodworking vise or a Workmate. Take a small level and align it with one of the guide lines for the left arm. Slowly rotate the post while watching the bubble in the level. When the guide line and level are perfectly plumb (straight up and down), lock the post in place so it can't move. **(Figure 35.)**

The outside diameter of 3/4-inch plumbing pipe is actually about 1 1/8 inches. To ensure proper "give" in the dummy's arms, we will be drilling the arm holes with a 1 1/4-inch spade bit. Move down to the mark you made for the level of the upper (left, as viewed from the front) arm. This mark represents the top of the arm, so to find the center, you must start your drill 5/8-inch below that. If you did everything right, the highest point of the post at that point should be slightly to the left of the centerline mark on the front face of the dummy. Hold the drill completely perpendicular to the post and drill straight down. Work slowly and carefully and withdraw the bit occasionally to remove the accumulated wood chips. **(Figure 36.)**

When the point of the drill penetrates the back of the post, stop drilling and turn the post over. Once again, align the post so that the guide lines for the left arm are plumb, and then finish drilling the hole from the back side of the post (using the hole made by the point as a guide). This method will prevent chipping of the wood at the back of the post as the drill penetrates and ensure a nice, clean hole.

Now it's time to drill the hole for the other upper arm (the right one, as viewed from the front). The hole for this arm will be located slightly below the hole for the left arm. Once again, use a level to ensure that the guide lines for the right arm are plumb, and then secure the post in place. Start the center of the drill at the highest point of the post surface, 7/8-inch below the bottom of the hole for the left arm. This will ensure that there is a solid web of wood between the holes for the two arms for maximum strength. Again, work slowly

and keep the drill perpendicular to the surface of the post. When the point of the drill penetrates the back of the post, turn the post over and finish the hole from the other side. **(Figure 37.)**

Finally, drill the hole for the center arm by using the centerline on the top of the post as a guide. Make sure this line is plumb, secure the post firmly, and drill the hole using the method described above.

The next step is to cut the three pipes that will become the arms to the proper length. To do this, slide one of the pipes through a hole in the dummy and screw a pipe cap or lock nut on the rear end of the pipe. Pull the pipe forward until the pipe cap or nut is flush against the rear face of the dummy. Now place your elbow flush against the front face of the dummy and extend your forearm along the top of the arm. Make a fist and mark the pipe even with your knuckles. Also make a mark on the pipe even with the front face of the dummy.

Remove the pipe and find the mark you made at your knuckles. From this mark, measure 1 1/2 inches back toward the rear end of the pipe and make another mark. This is where you will cut the pipe to length. Secure the pipe in a vise and use a hacksaw to cut it to length. Then use a grinder or fine metal file to dress the cut end of the pipe. Using this pipe as a guide cut the other two pipes to the same length and smooth the cut ends. **(Figure 38.)**

Now take your dummy post back to the frame, shim it to the proper height with scrap wood and secure it in place with bungee cords. Make sure that the post is placed in the exact center of the horizontal supports. Insert all three arms and secure them at the back of the post with caps or lock nuts. Using the lower arm as a guide, twist the dummy laterally until the lower arm extends straight forward, perpendicular to the frame. Step up to the dummy and place your navel against the end of the lower arm. The two upper arms should touch your chest near your nipples and should extend at equal angles to the left and right.

If one of the upper arms is not properly aligned, you can use a round or half-round wood rasp to elongate the mounting hole and bring it into alignment. If the upper arms look good, but the lower arm is slightly off-center, use the upper arms to get the dummy's centerline perpendicular to the frame and adjust the mounting hole for the lower arm to bring it into line. If the fit of the arms in the holes makes them feel too rigid, use the rasp to expand the holes until you achieve a comfortable degree of "give" when you work with your dummy.

Once all the arms are properly aligned, use a carpenter's square to see if the centerline on the top of the post is still perpendicular to the frame or wall. If not, use the square to scribe a new centerline on the top of the post.

If you are mounting your dummy to a wooden frame with horizontal supports, mark the post on the top and bottom edge of each of the supports. These marks will be used as guides when cutting the dadoes (notches) for mounting the dummy to the supports. Also, mark the exact center of the horizontal supports and make a matching reference mark on the back of the post above both of the supports.

Remove the dummy's arms and take the post off the frame. Place the post in the "V" blocks or vise with the front face down and use a level to get the centerline on the top of the post plumb. Take a hand saw and place a strip of duct tape along the entire length of the blade so that its edge is exactly 1 1/2 inches from the cutting edge. Using the tape as a depth gauge, make level cuts 1 1/2 inches wide at the four pencil marks indicating the top and bottom of the horizontal supports. Then use a wood chisel and a hammer to carefully remove the material between the cuts, leaving a clean notch with an even, flat bottom. (Note: If you have a radial arm saw, you can make this process much easier. Place the post in "V" blocks, get the centerline on the top of the post plumb, and use the radial arm saw to make these cuts and remove the material between them.) **(Figures 39–41.)**

Take the dummy post back to the frame and slide the dadoes onto the horizontal supports. Insert the dummy arms and make sure everything is properly aligned. If necessary, clean up the dadoes or the arm mounting holes to achieve proper alignment of all parts. Once everything is in place, mark the tops of the horizontal supports at the edges of the post body and remove the post.

Chuck a 5/32-inch drill bit into your drill and drill two holes into each of the horizontal supports. These holes should be about 2 inches to each side of the exact center of the support.

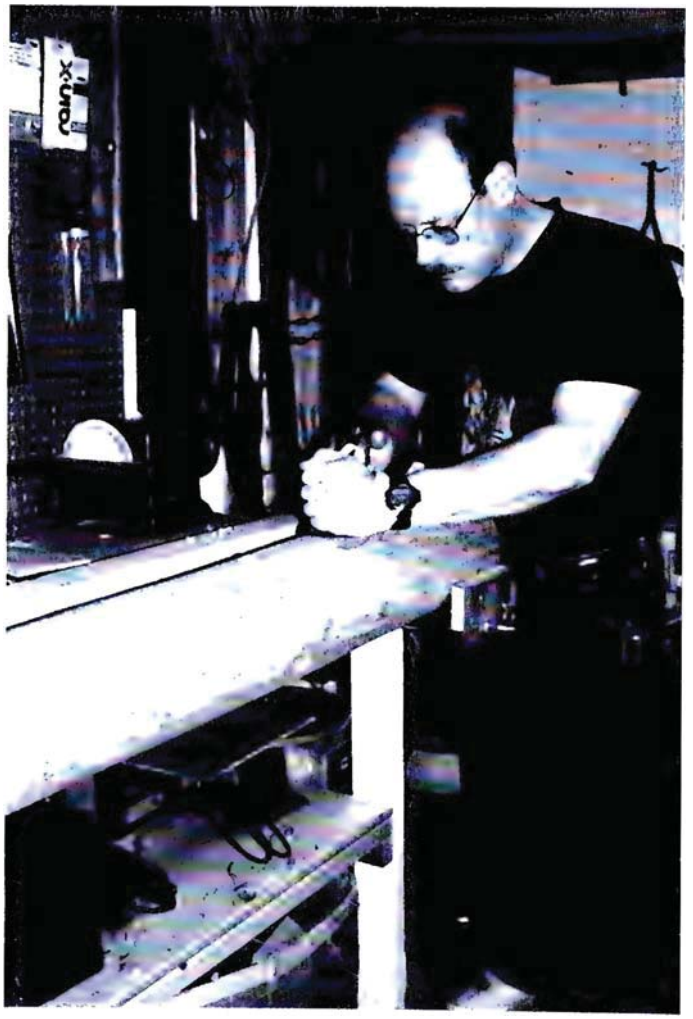
Get four 5 1/2 x 1/4-inch lag screws and matching 1 1/4-inch fender washers and start these screws into the holes you just drilled. These screws must be inserted from the back of the horizontal supports so the points of the screws will face forward. Mount the dummy post on the horizontal supports and align the sides of the

post with the pencil marks on the supports. Hold the post in place with bungee cords and use a socket wrench to tighten the lag screws until they begin to bite into the post. Remove the post again and use the marks to drill 3/16-inch pilot holes. Mount the post unto the frame, align it carefully and tighten the lag screws until the screw heads are about 1/8 inch from the surface of the wood. **(Figures 42 & 43.)**

With the dummy body in place, it's time to finish the arms. Buy a 10-foot piece of 1-inch schedule 40 PVC pipe. Once again using the distance from the tip of your elbow to your knuckles as a guide, cut three pieces of pipe to this length and sand or file the ends smooth. Now clamp the pipes into a vise and use a hacksaw to carefully split one side of each pipe along its entire length. Insert a flat-bladed screwdriver into the split to hold it open and slide the PVC sleeves over the steel pipes until they are even with the marks indicating the front face of the dummy. Since the steel pipes were cut 1 1/2 inches short, the PVC should extend past the front end of the steel pipe. **(Figures 44 & 45.)**

Now get a piece of 1 1/8-inch wooden dowel and cut three 1 1/2-inch pieces from it. Mix some two-part epoxy, coat the dowels with it, and insert them into the gaps in the ends of the PVC sleeves. **(Figure 46.)**

When the epoxy has cured, drill a 1/8-inch hole on each side of the split in the sleeve through the sleeve and into the dowel. Countersink these holes deeply and then screw a 3/4-inch #8 wood screw into each of them. Make sure the screw heads do not protrude above the edge of the countersink. **(Figures 47 & 48.)**



Finally, take a trip to the local auto parts store and get a small can of Bondo. Mix the Bondo according to the instructions on the can and use a putty knife to spread it into the gap created by the split in the sleeve. Also, cover all the screw heads. When the Bondo is set, use files and sandpaper to sand it even with the surface of the sleeve and to round the edges of the sleeve at the front of the arm. **(Figures 49 & 50.)**

At this point, your dummy is basically complete. Just reinstall the arms in the dummy and start slamming. If you want your dummy to have a more decorative look, you can stain the dummy frame and post and seal them with several coats of polyurethane. I like to use brush-on polyurethane for the first couple of coats. Let them dry completely and then sand them with 220 grit sandpaper and wipe away the sawdust with a tack cloth. For the final coat, use spray polyurethane. It leaves a smoother finish free of brush marks. **(Figures 51–53.)**

Figure 21. If you do not plan to pad your dummy, or if you want a more aesthetically pleasing look, you'll need to plane and or sand your dummy post to achieve a smooth finish. Note that the post is secured in a woodworking vise to hold it steady.

LEFT: Figure 22. The results of about an hour of planing and a lot of elbow grease. A rough post is shown on the right, with the planed version on the left.

BELOW: Figure 23. A belt sander will give an even finer finish to your dummy—important if you plan to stain it.

RIGHT: Figure 24. Use a file to round the edges at the top and bottom of the post.

BELOW LEFT: Figure 25. The centerline marked on the top of the dummy post. This will give you a consistent reference regarding the center of the post and the front face.

BELOW RIGHT: Figure 26. To determine the location of the arm holes for your dummy, you must temporarily mount the post at the right height with the centerline facing directly forward. Here the post is supported with scrap wood and secured to a rigid wall frame with bungee cords.

LEFT: Figure 27. The height of the mounted dummy post should be equal to your own height.

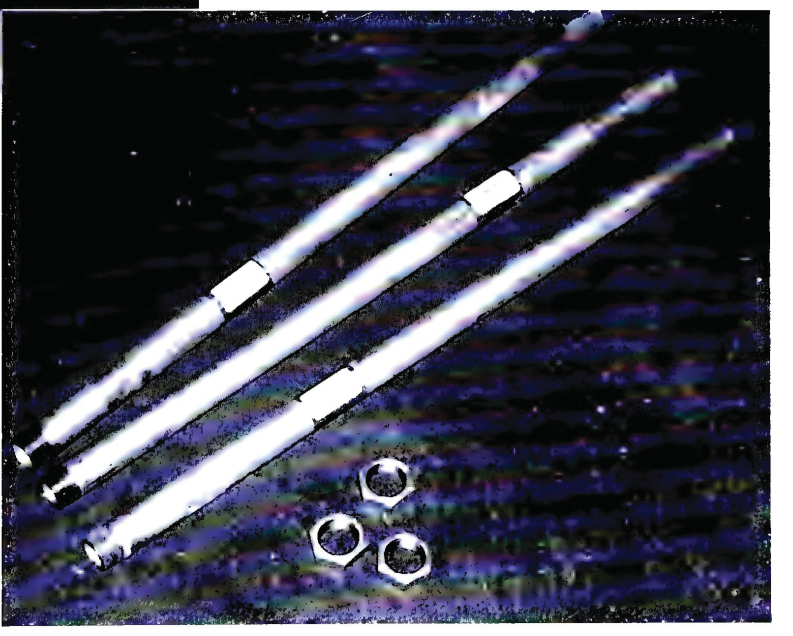
BELOW: Figure 28. "Posting" is the process of determining the location of the upper left arm (as viewed from the front). Assume a wing chun "goat riding" stance and extend your left arm horizontally in a palm-heel strike. The upper left arm should be located just below the level of your hand and forearm (so your forearm actually rests on top of the arm of the completed dummy). Mark this level with a pencil.

RIGHT: Figure 29. The proper height of the dummy's left arm as shown on a finished dummy.

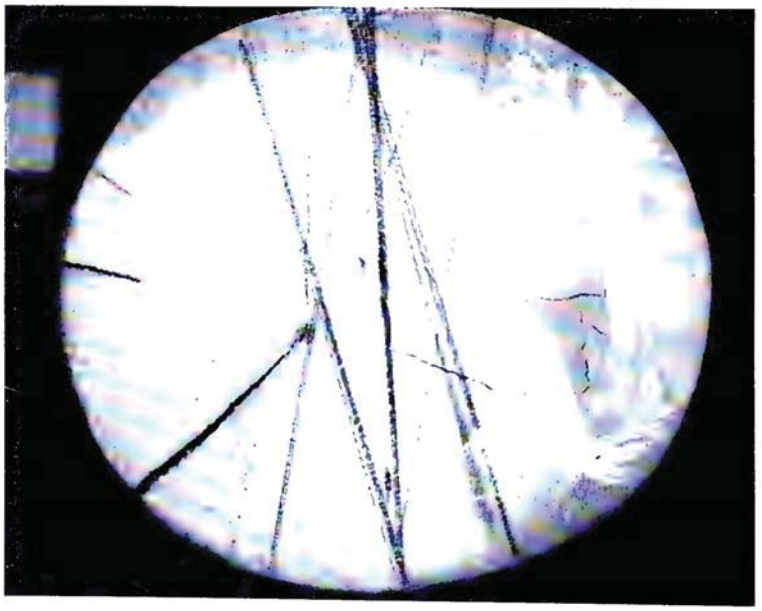
BELOW: Figure 30. The level of the lower arm is determined by assuming a "hard bow" or forward leaning stance. Your elbow is held tight to your ribs as your forearm extends horizontally in a palm-heel strike. The lower arm should be located just below the level of your hand and forearm.

LEFT: Figure 31. The proper height of the dummy's lower arm as shown on a finished dummy.

BELOW: Figure 32. The arms of the simplified wing chun dummy design are made from three 24-inch pieces of 3/4-inch steel plumbing pipe and secured with lock nuts or pipe caps.



RIGHT: Figure 33. The width between the ends of the upper arms should be equal to the distance between your nipples. To achieve this first mark one of the pipes with tape to show the proper arm length (the distance from the tip of your elbow to the knuckles of your fist). Stand on a small step stool so your chest is level with the top of the post and your breastbone is directly in front of the dummy centerline. With the tape mark on the pipe even with the front face of the post and the pipe resting on the centerline, turn the end of the pipe outward until it reaches your left nipple. Then scribe lines on each side of the pipe to indicate the drilling angle for the arm hole. Repeat this process on the other side for the dummy's right arm.

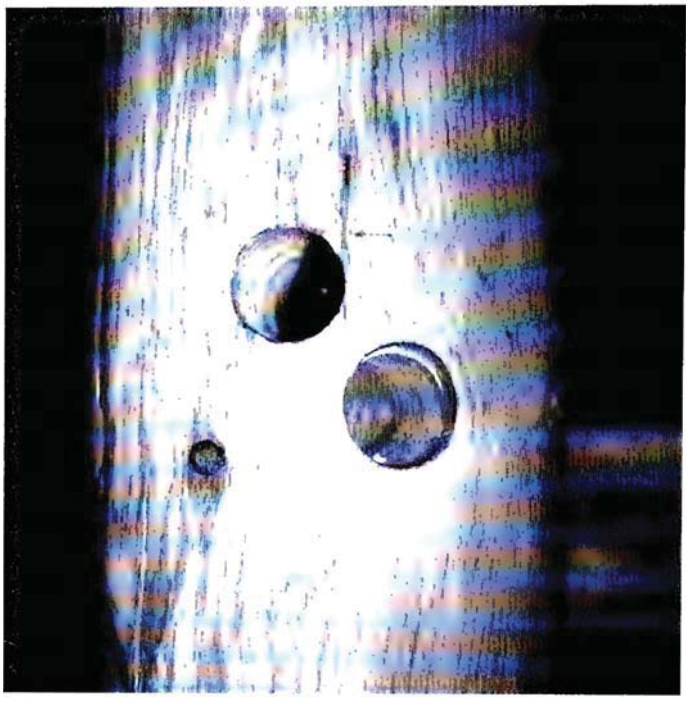


BELOW: Figure 34. The results of marking the angles for the upper arms (as seen from the top). Note that the lines indicating the sides of the pipe (and the path of the mounting holes) pass through the center of the post.

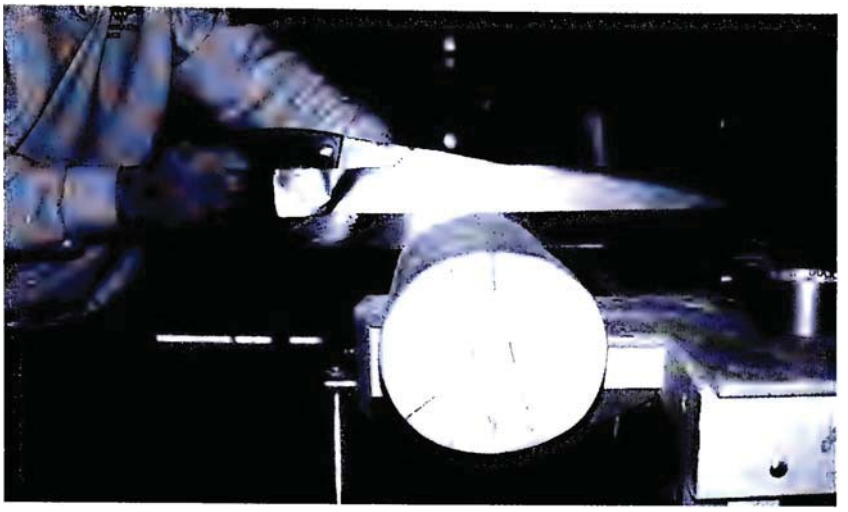
LEFT: Figure 35. To drill the hole for the left arm, you must first position the post so the guide lines for the left arm are perfectly plumb (straight up and down). Use a small level aligned with one of the guide lines and rotate the post in a "V" block or vise. When you've got it right, clamp the post in position.

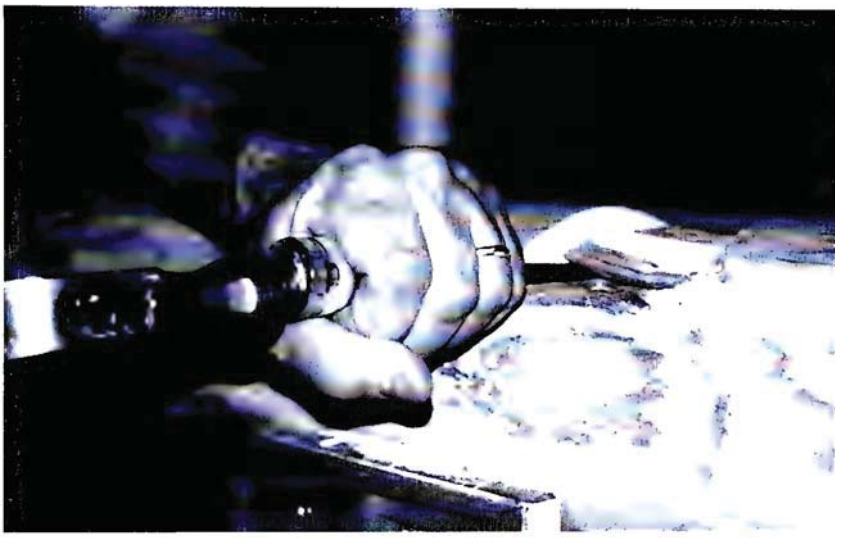
BELOW: Figure 36. Make sure to keep your drill straight up and down when drilling the arm mounting holes. When the tip of the drill penetrates the back of the post, turn the post over and finish the hole from the back side to prevent chipping. If necessary, use a shank extension on your drill to penetrate the full thickness of the post.

RIGHT: Figure 37. The mounting hole for the right arm is done using the same process and is drilled so that its upper edge is about 1/4 inch below the lower edge of the hole for the left arm. Note the pencil marks indicating the center of the lost and the level of the top of the left arm.



BELOW: Figure 38. To cut the pipes for the dummy arms to the proper length, insert one of the pipes through a mounting hole, tighten a lock nut on the threads, and pull the pipe forward until the nut is flush against the back of the post. Then place your elbow against the front face of the post and mark a spot on the pipe even with your knuckles. Subtract 1 1/2 inches from this length and cut the pipe with a hacksaw. Cut the other two pipes to the same length as the first.

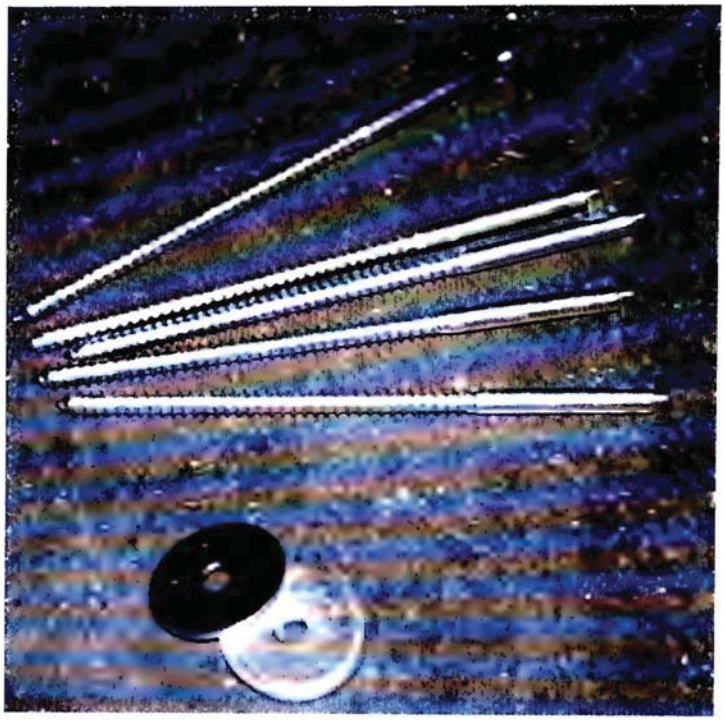




TOP: Figure 39. If you are mounting your wooden dummy to a traditional style frame, the easiest method is to cut dadoes (notches) in the back of the post to fit the horizontal supports of the frame. After marking the dado locations, align the post with the back side facing up and the center-line plumb. Then use a hand saw to cut to the proper depth. Note that the cut depth has been marked with tape on the blade of the saw.

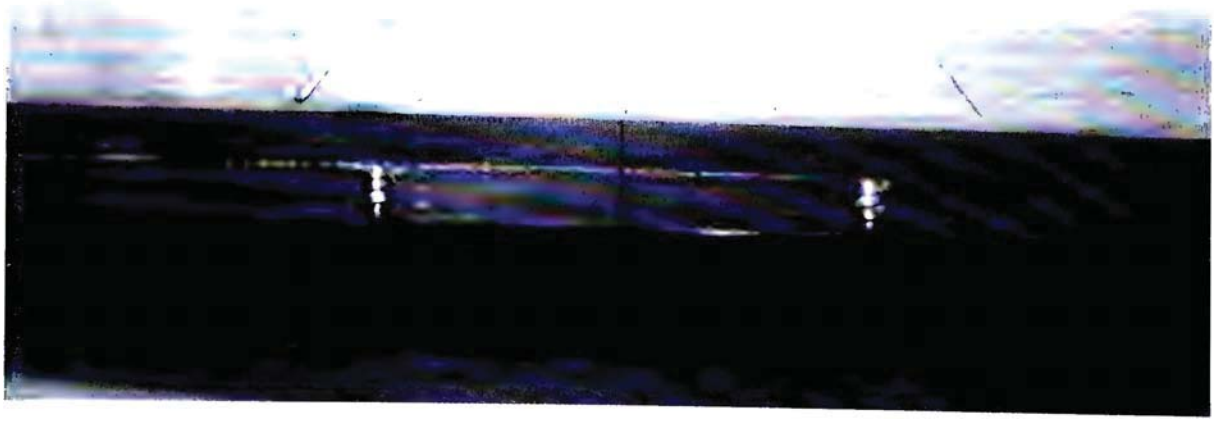
CENTER: Figure 40. After making the top and bottom cuts for the dadoes, use a wood chisel to remove the area in between.

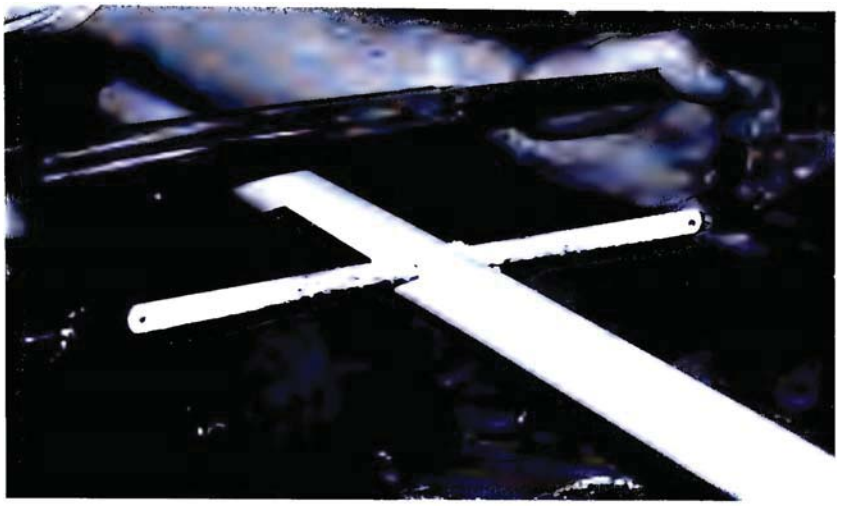
BOTTOM: Figure 41. The finished dadoes for mounting the dummy to a traditional frame.

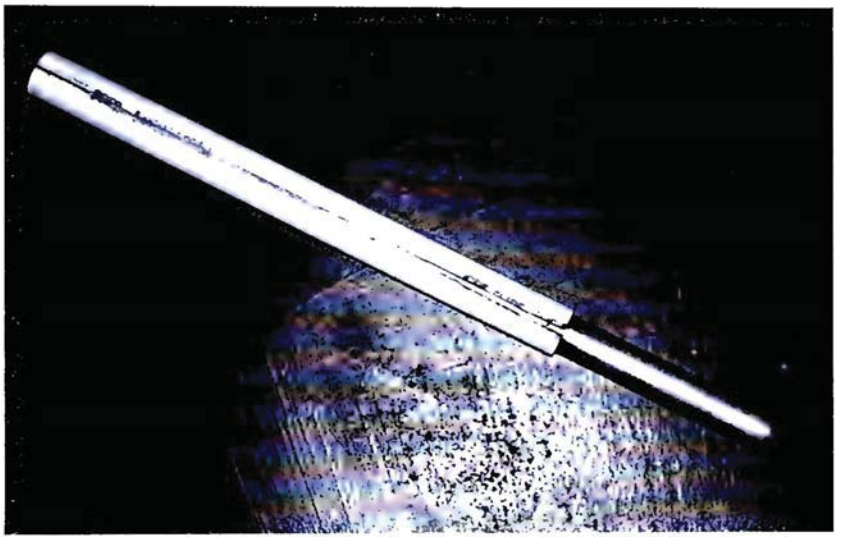


RIGHT: Figure 42. The dummy post is attached to the horizontal supports of the frame with 1/4-inch lag screws and fender washers.

BELOW: Figure 43. Drill pilot holes through the supports, insert the lag screws (from back to front), mount the post, and tighten the screws with a wrench. Note the pencil marks for aligning the post during mounting.



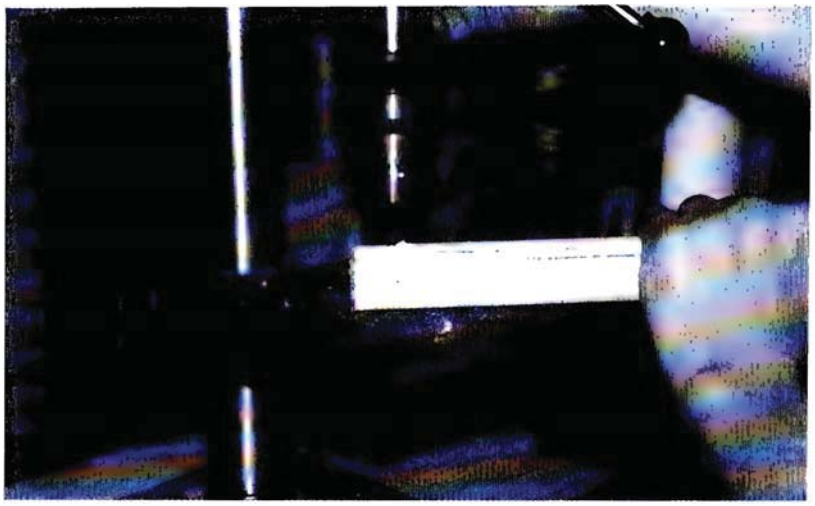


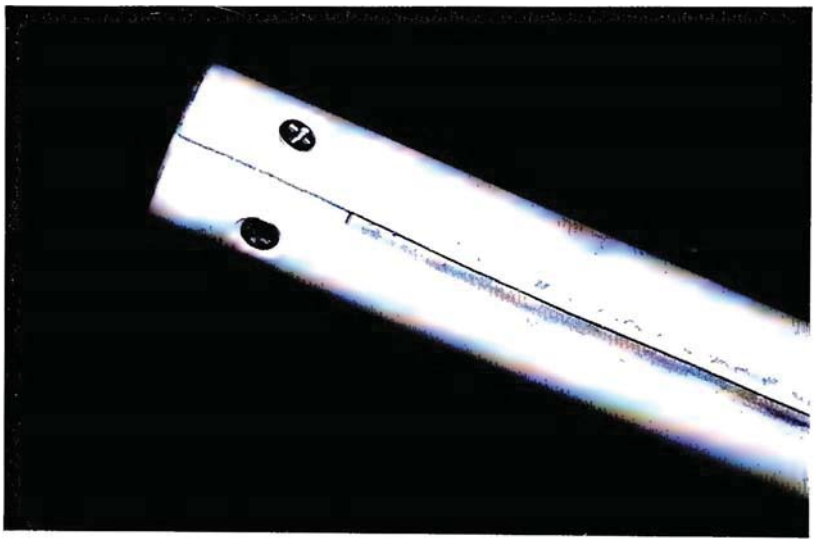


TOP: Figure 44. To keep the dummy arms from being pushed out the back of the post, sleeves made of 1-inch PVC pipe are attached to the outside of the pipes. First, cut three pipes to proper length (the distance from your elbow to your knuckles) with a hacksaw and dress the ends with a file or sandpaper.

CENTER: Figure 45. Slit the PVC sleeves along one side with a hacksaw and slide them over the front of the arm pipes. The ends of the arm pipes should be 1 1/2 inches short of the end of the sleeve.

BOTTOM: Figure 46. Cut a 1 1/2-inch piece of 1 1/8-inch dowel and epoxy it into the cavity at the end of the arm. This plug will allow you to round the ends of the arms to reduce the risk of injury.





TOP: Figure 47. Once the epoxy has set, drill two 1/8-inch holes through the PVC into the dowel and countersink them deeply.

CENTER: Figure 48. Screw two 3/4-inch #8 wood screws into the holes, making sure that the screw heads are below the rim of the countersink.

BOTTOM: Figure 49. Fill the gap in the sleeve and the countersinks with Bondo. When it has set, sand everything smooth and round the ends of the arms, smoothly blending the wood and the PVC.

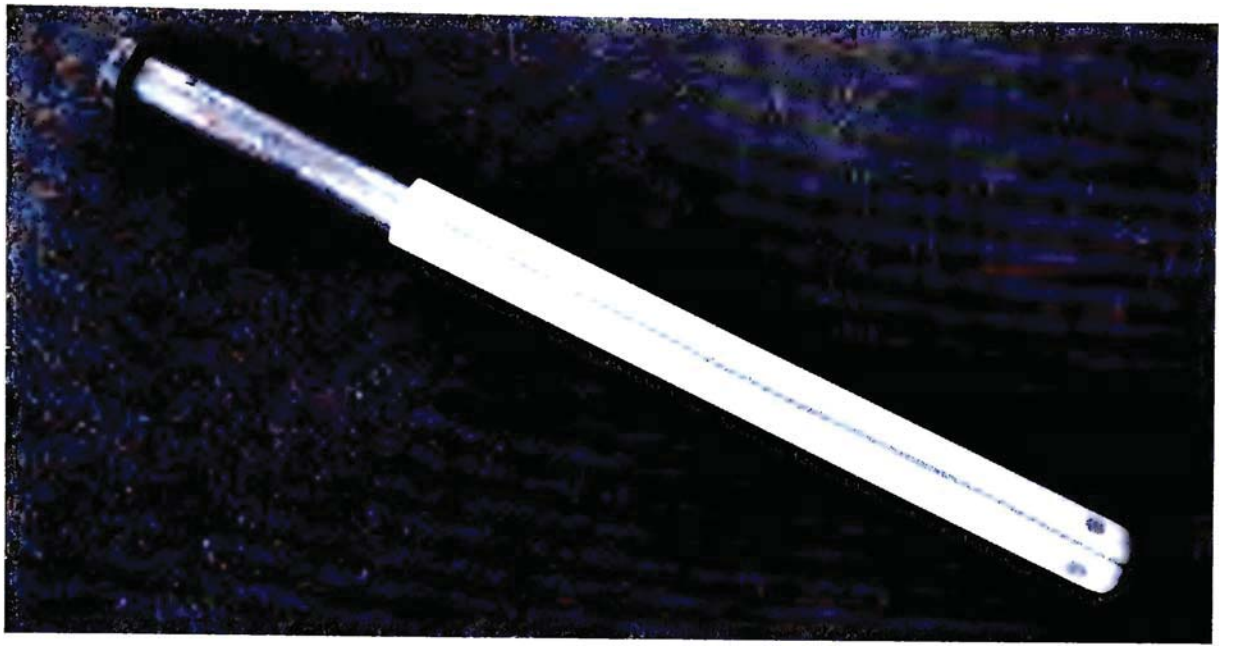


Figure 50. The finished arm with lock nut attached.

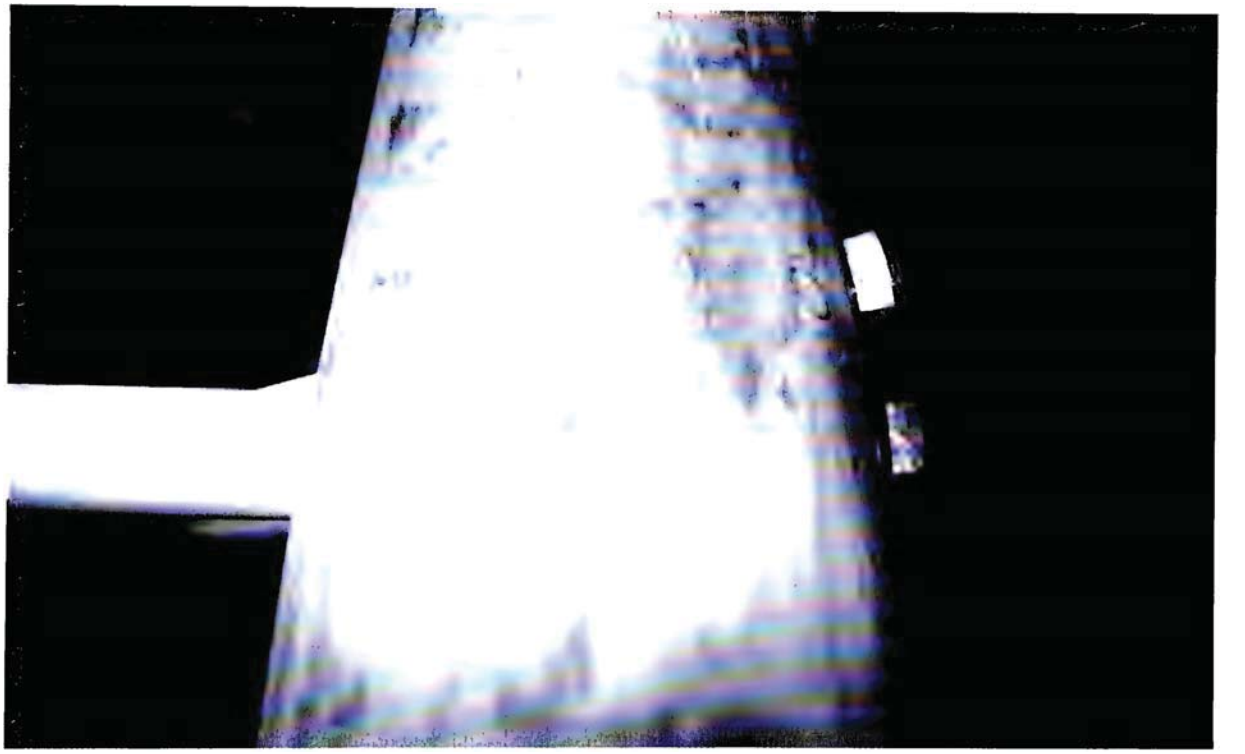
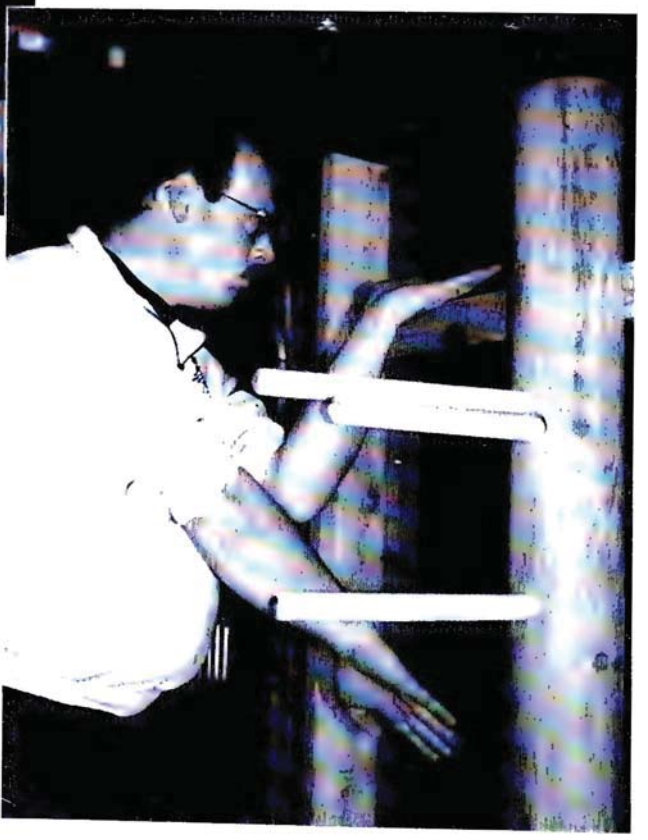


Figure 51. Once the arms are complete, insert them through the mounting holes in the post and secure them at the back with lock nuts (shown) or pipe caps.

ABOVE: Figure 52. The finished traditional dummy without a leg. This is the type of dummy used in the Paladin video set, *The Mook Jong Slam Set*, featuring Sifu Joseph Simonet.



RIGHT: Figure 53. The traditional mook jong in use.

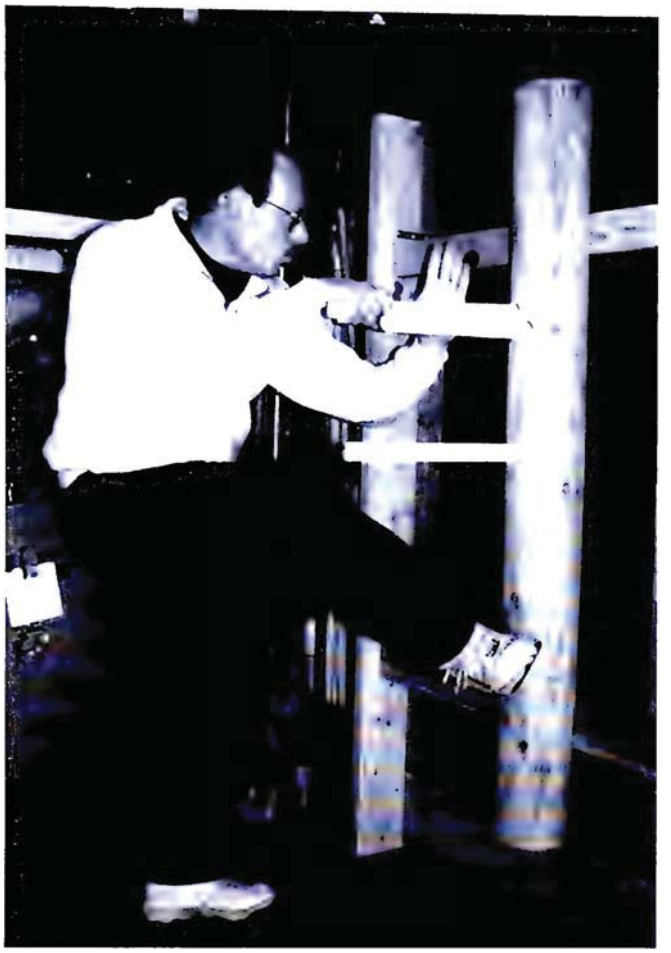


Figure 54. The body of the traditional mook jong without a leg is used to represent an opponent's leg for kicking techniques.

Want Some Leg?

In this form, your dummy is identical to those used in the Paladin Press video *The Mook Jong Slam Set: Dynamic Wooden Dummy Training for All Martial Artists* featuring Sifu Joseph Simonet. The Slam Set is a highly evolved wooden dummy form that includes many close-range movements. As such, it works best with a dummy that does not have a protruding lower leg (the dummy post represents the opponent's leg). **(Figure 54.)** However, if you are a traditional wing chun practitioner or prefer a dummy with a lower leg, it is easy to add one.

Many traditional wooden dummies have legs made from hardwood branches (the dummy used by Bruce Lee's teacher Yip Man and shown in the classic book *116 Wing Tsun Dummy Techniques* by Yip Chun is a perfect example). If you can find a hardwood branch of the right shape and size, simply sand or whittle the end that will be inserted into the dummy into a cylindrical shape. This portion of the leg, which we'll call the *shank*, should be about 2 inches longer than the thickness of the dummy body and should have a slight shoulder at the front to bear against the front face of the dummy.

To drill the hole for the leg, hang a plumb bob from the lower arm of the dummy to mark a centerline on the face of the dummy. The height of the hole will depend upon the shape of the leg. Now drill the hole as before and use rasps to achieve a final fit. Once the leg fits the hole well, drill a hole about 3/16 to 1/4 inch in diameter perpendicularly through the end of the shank and insert a metal pin (made from round mild steel rod or a large nail) through the hole to retain the leg.

The problem with using a branch for your dummy leg is that if it ever breaks, it will be very difficult to find a matching replacement. Some traditional wooden dummies use legs made of laminated hardwood. These legs are usually made of two pieces of hardwood joined at the "knee" with an intricate box joint. The shank of the upper section extends through an angled hole in the dummy post and is retained by a pin. If all this sounds complicated, you're right.

A simpler but not quite as durable version of the traditional wooden leg can be constructed from two pieces of 2x4 (preferably hardwood 2x4). Cut the first piece, which we'll call the *thigh*, 32 inches long. Twelve inches from what will be the top end, use a combination square to mark a 45-degree angle across the wide surface of the 2x4. Above this mark, measure in 1 inch from each edge of the wide surface and scribe lines parallel to the edges. Using a hand saw or saber saw, cut along these lines, and then cut in along the 45-degree marks. Two

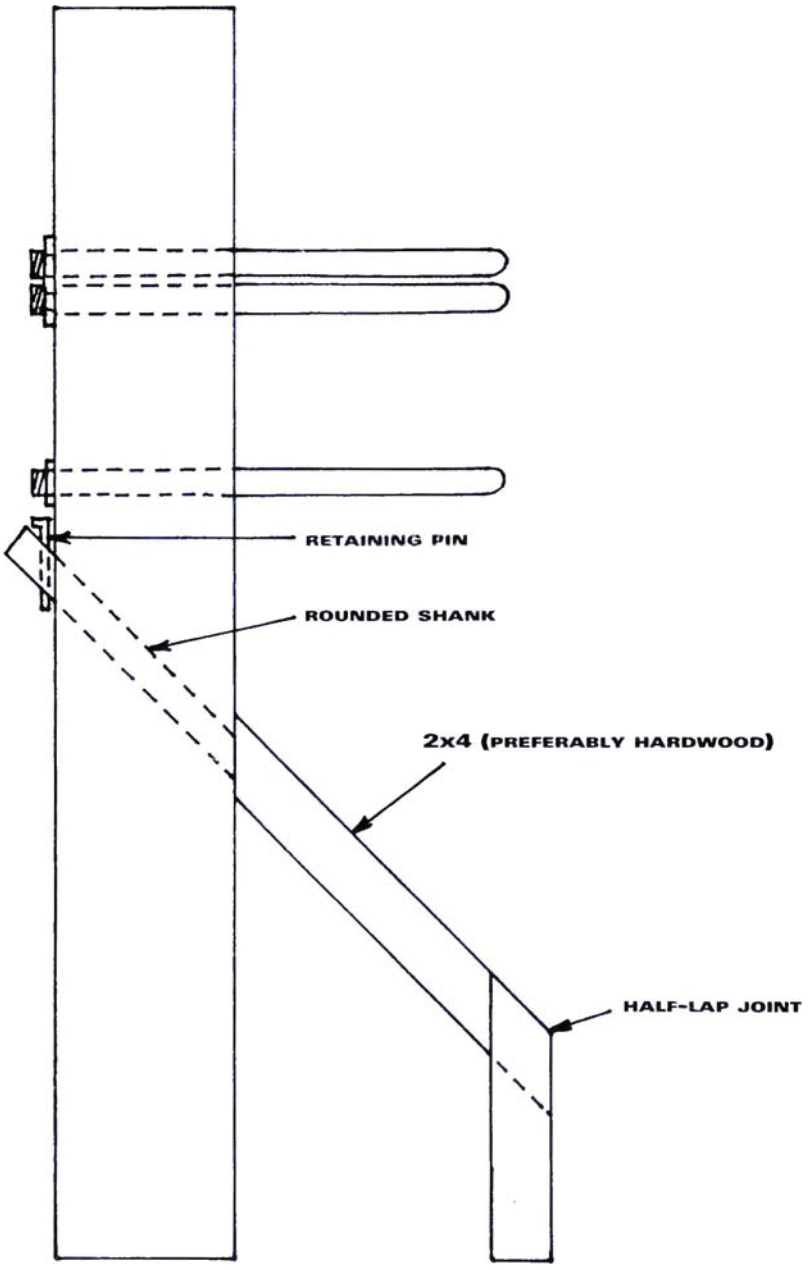


Figure 55. If you want a traditional wooden leg for your dummy, you can make one from two pieces of 2x4. The upper part of the thigh piece is cut with 45-degree shoulders and rounded to fit into an angled 45-degree hole in the dummy post. The shin piece is attached to the thigh piece with a half-lap joint for strength. This type of leg is stronger when a greater angle (closer to 90 degrees) is used between the thigh and dummy post. However, for ease of construction, a 45-degree angle is shown here.

strips of wood should fall away from the edges of the board to yield a square shank 1 1/2 inches on a side. With a sharp utility knife or files and sandpaper, turn the square shank into a round one. **(Figures 55.)**

Use a combination square to mark the other end of the thigh piece with a 45-degree angle parallel to the angled shoulders of the shank. With a hand or power saw, trim off the marked end.

Cut the second piece of 2x4 for the *shin* 18 inches long and lay one end of it over the freshly cut end of the thigh so one edge is even with the cut surface. The end of the shin piece should be even with the top edge of the thigh so a small triangle of wood hangs over. With a pencil, mark the underside of the shin piece along both edges of the thigh. Then mark the thigh using the inner edge of the shin piece as a guide. These marks will allow you to make a lap joint to join the pieces together.

Use a handsaw to cut on the mark near the end of the thigh to depth of 3/4 inch (half the thickness of the piece). Then use a saw or a chisel and hammer to remove the wood from the cut to the end of the piece, creating a notch 3/4-inch deep.

Trim the 45-degree angle at the end of the shin piece off with a saw and then repeat the above process using the other marked line as a starting point. If you did everything properly, the result should be two matching angled notches that lap over each other to form a 45-degree joint resembling the knee of a leg. Make sure that the mating surfaces are all flat and square and then glue the joint together with carpenter's glue or high-strength epoxy. Clamp the joint securely and allow the glue to dry completely.

Now it's time to drill the hole for the shank of the leg. Use a plumb bob hung from the lower arm to find the center of the front face of the post and mark a point about even with the level of your groin. Using a drill and a long 1 1/2-inch spade bit (or a standard bit with an extension), carefully drill a hole at a 45-degree upward angle through the front face of the post and out the back. Remember to finish the hole by drilling from the back to prevent splintering.

Test fit the shank of the leg into the hole. If it is too tight, sand the shank or use a round rasp to expand the hole until you achieve a good fit. With the shank inserted fully into the hole, mark the shank even with the back face of the post. Remove the leg and drill a 1/4-inch hole just beyond the mark (between the mark and the end of the shank) so the hole is vertical when the leg is installed. Get a piece of 1/4-inch round steel rod about 5 inches long and bend 1 inch of one end to a 90-degree angle. Reinstall the leg and insert this pin downward through the hole in the shank to retain the leg.

(Note: The wooden leg actually works better when a greater angle is used between the thigh and the dummy post. The hole in the post does not have to be as deep and is therefore mush easier to drill. This also puts less stress on the shank of the thigh piece, making it less likely to break.

Unfortunately, this method makes calculating the angles for the half-lap joint more difficult.

If you prefer a greater angle—closer to 90 degrees—construct and mount the thigh piece first. Then clamp the shin piece to the end of the thigh piece and adjust it until it is plumb. Mark both pieces with a pencil and cut the notches for the joint.)

If all this sounds like a lot of work, you're right. A much easier but less traditional method of constructing a leg for your dummy is to use 3/4-inch plumbing pipe and connectors. For the details of this method, see the section on building my Human Response dummy.

Traditional Wooden Arms

If you examine a traditional wing chun wooden dummy, you'll see that the arms are made of tapered hardwood. If you are determined to have a traditional-looking dummy, the easiest way to make hardwood arms is to get a few old baseball bats and carve them down to the appropriate size and shape. Short children's bats work best and require less work to yield a usable arm.

The ideal way of using bats to make arms is to sketch out the desired dimensions and take both sketch and bats to a competent wood turner. He can reduce the bats to the proper size and turn shouldered round shanks to mount the arms to the dummy. When the arms are finished, insert them into the holes in the dummy post and drill pin holes for steel retaining pins using the same method described for the wooden leg.

If you are really traditional, you may want to have square mounting holes in your dummy post. This makes cutting the shanks for the limbs easier, but also makes preparing the holes much more difficult. Drill round holes to start; then use chisels, rasps, and files to make the holes square.

Most dummy users I've spoken to see no advantage to square holes and shanks and feel that they just complicate the construction process and make getting spare parts more difficult. As such, I highly recommend that you stick with round holes during your dummy construction.

One very simple method of constructing dummy arms is to use 1-inch hardwood dowel (oak or maple works best) and sleeves made from 1-inch PVC pipe. The dowel should be cut to a length that equals the distance from your elbow to your knuckles plus the thickness of the dummy post plus about 3 inches. The PVC sleeve should be cut to match the distance from your elbow to your knuckles.

Once everything is cut and the ends sanded smooth, coat the portion of the dowel to be covered by the sleeve with epoxy and slide the PVC sleeve over the dowel until the ends are flush. Wipe off any excess and let the epoxy cure. Then sand the front end round and smooth, insert the shank into the dummy post, mark the back, and drill a hole for a retaining pin (for a 1-inch dowel, you may want to use thinner pins such as 3/16 inch).

Although not as strong as arms made of steel pipe or baseball bats, these arms work pretty well and are easily replaced.

The PVC Dummy

One rather nontraditional way of constructing a traditional wing chun-style dummy is to make one from PVC pipe. The construction method is identical to that used for the wooden dummy, except that the wooden post is replaced with a piece of 4-inch Schedule 40 PVC pipe (available at most hardware stores for $10 to 15 for a 10-foot piece). This pipe is lightweight and very easily worked with hand tools.

To construct a dummy body from PVC, follow the same steps as a wooden dummy. When it comes time to determine the drilling angles for the arm mounting holes, cut a short piece of the 4-inch tube from the scrap and use it as a template to draw a circle on a piece of cardboard (the back of a legal pad works great). Draw a centerline on the cardboard circle and then cut it out and epoxy it to the end of the pipe to be used for the dummy body.

The best arms for the PVC dummy are the ones described earlier that are made from 1-inch hardwood dowels and 1-inch PVC pipe. Make three of these and follow the earlier instructions for determining the drilling angles. Use the centerline on the cardboard circle as a guide and mark the guide lines for the drilling angles right on the cardboard.

When you've determined the drilling locations for the arm holes, don't try to drill through both sides of the pipe at once. Instead, determine the center mark for of the first hole and wrap a piece of masking tape all the way around the pipe just above or below it. Overlap the tape several inches right near the mark.

Now use a sharp knife to cut the tape at the mark. When you peel it off, you should have a length of tape that represents the exact circumference of the pipe. Fold the tape exactly in half to get half this dimension, place one end on the mark, and wrap the other end around to the back of the pipe. Mark the pipe even with the other end of the tape. Now measure down from the top of the pipe to both marks to make sure they are at the same level.

This method gives you two holes directly opposite each other and makes accurate drilling much easier. Since drilling PVC pipe with a paddle bit is sometimes difficult, you may want to use a 1 1/8-inch hole saw instead.

Because the PVC pipe is not solid, it is a bit more challenging to mount to a frame. To make mounting easier and more secure, drill your mounting holes through the back of the pipe and then slide a 2x4 into the center of the pipe. The 2x4 should be several inches longer than the distance between the two horizontal supports. Anchor the mounting screws through the PVC into the 2x4. If you are mounting the dummy to a rigid wall frame, you may still notch the back of the pipe to accept the horizontal supports, but do not cut the notches too deeply.

The PVC dummy is surprisingly durable and very economical. However, in the author's opinion, it is not strong enough for the attachment of a steel leg. If you wish to have a leg on your PVC dummy, I recommend that you stick with the wooden leg to avoid cracking the dummy body.

Building a Human Response Dummy

The inspiration for the Human Response dummy came from Datu Kelly S. Worden's "Silent Fighter." The Silent Fighter is a highly evolved dummy that comes closer to the "perfect" dummy than any other commercially made product I've seen. Its most unique features include movable arms that are offset to represent a person in a boxer's lead stance and a fully padded, vinyl-covered exterior that allows the practitioner to strike with full power without the risk of injury. Silent Fighter dummies are individually handmade by Datu Worden and are available from Worden's Combative Arts, P.O. Box 64069, Tacoma, WA 98464. If after reading this book you are still hesitant to build your own dummy, invest in a Silent Fighter. You'll be glad you did.

After visiting Kelly and working with the Silent Fighter a bit, I knew I had to have one. Unfortunately, although the Silent Fighter is a bargain compared to traditional wooden dummies, I still didn't have the money to buy one at the time.

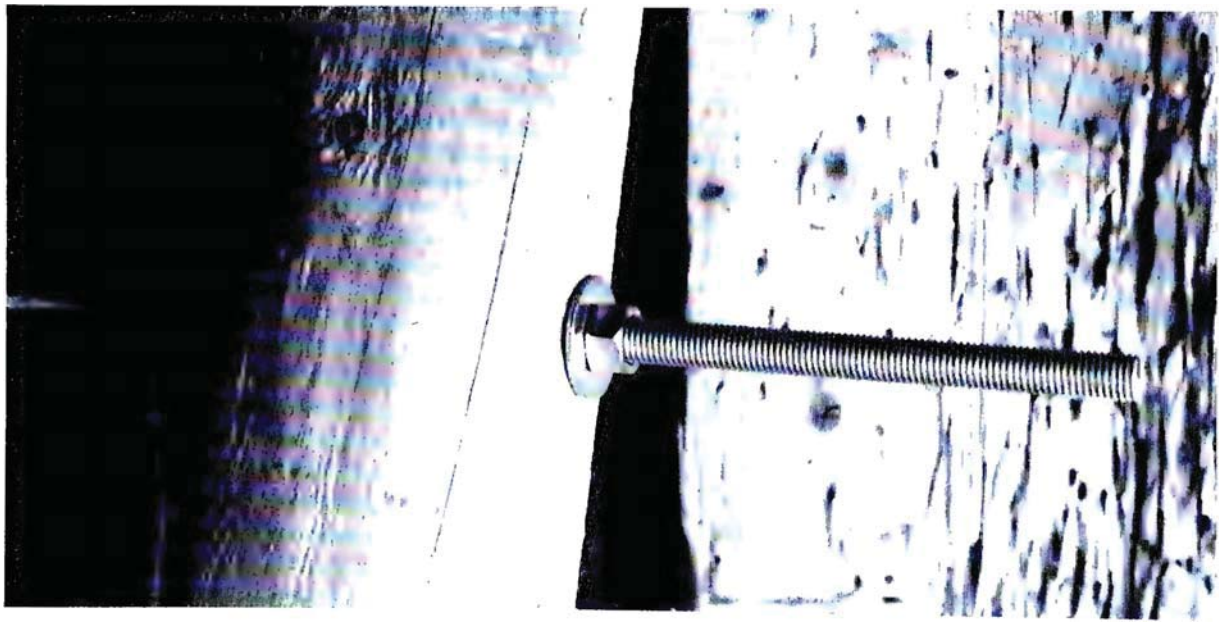
After a lot of brainstorming and sketching and quite a bit of scavenging, I came up with the idea and the materials to make my own version of the perfect dummy. Since assembling the prototype, I have made a number of refinements and finally christened the result the "Human Response" dummy. Like a traditional mook jong, it has three arms and a leg; however, to make the "feel" of the dummy more realistic and allow it to automatically return to its neutral position between strikes, I have spring-loaded all the limbs. **(Figure 56.)**

The Human Response dummy can be mounted to any of the frames or mounting systems described in this book, but for best results it should be mated with the flexible wall mount made from a car tire. This mount allows the dummy to move laterally and greatly enhances its spring-loaded, almost human feel. The photos for this book, however, were shot during the construction of a Human Response dummy with freestanding (T-shaped) frame. Again, the mounting system you choose will depend upon your individual circumstances and needs.

Figure 56. The Human Response dummy has movable spring-loaded arms that allow for very realistic practice. Here the author demonstrates an upward deflection and counterpunch against a simulated right punch.

LEFT: Figure 57. The first step in making a Human Response dummy is to drill a 3/4-inch hole sideways through the post at shoulder level.

BELOW: Figure 58. The shoulders of the dummy are made by placing a 24-inch piece of 3/4-inch all-thread rod through the hole and securing it with flat washers and 3/4-inch nuts. Make sure that the rod is perfectly centered in the post.



Human Response Dummy Parts List

- 6-inch round wooden fence post, 8 feet long (1—dummy body)
- 3/4 x 24-inch all-thread rod (shoulder cross piece for single wide-shouldered dummy)
- 3/4-inch nuts and washers (6)
- 3/4 x 36-inch pipe threaded at both ends (1—cut in half for arms)
- 3/4 x 18-inch pipe threaded at both ends (4—cut one in half for arm mounting sleeves, one for the lower arm, and two for the leg assembly)
- 3/4 x 8-inch pipe threaded at both ends (2—leg mounting piece and spring mount for leg)
- 3/4 x 6-inch pipe threaded at both ends (1—cut in half for spring mounts for arms)
- 3/4-inch four-way connectors (2—arm mountings)
- 3/4-inch three-way connector (1—leg retaining piece)
- 3/4-inch 45-degree elbows (2—leg joints)
- 3/4-inch flange (1—for mounting lower arm)
- #195 coil springs (2—for spring-loading arms)
- Foam pipe insulation for 3/4-inch pipe (2—10-foot pieces)
- Duct tape
- Heavy- duty bungee cords (1—for spring-loading leg)
- 1/4 x 3-inch lag screw with flat washer (1—for attaching spring ends)

The Post

The post for the Human Response dummy is a piece of 6-inch wooden fence post cut to your height. If you are planning to mount your dummy to a wooden frame or prefer a much livelier feel, cut the post about 8 to 10 inches shorter than your height. Since my personal fighting style includes a lot of foot trapping. I cut the posts for my dummies 1 1/2 inches shorter and attach a 2x4 "foot" to the base with 3-inch deck screws.

If you plan to pad the striking surfaces of your dummy, you can leave the wood rough. If you prefer a bare-wood look, it is recommended that you plane or sand the surface of the post smooth.

With your dummy post cut to proper length, stand it on end and mark it at the level of your shoulder joint. Lay the post down in "V" blocks or a vise and use a æ-inch spade bit and a drill to drill a hole completely through the post at this point. This hole should go sideways through the post, so if you have already mounted a foot to the base or have strong preferences for the front face of the post, take these into consideration before you drill. **(Figure 57.)**

After drilling the hole, insert a 2-foot piece of 3/4-inch all-thread rod. Center the rod in the post and secure it in place using flat washers and 3/4-inch nuts. Use a large adjustable wrench or channel locks to make sure everything is very tight. This will form the shoulders of the dummy. **(Figure 58.)**

Upper Arms

The upper arms for the Human Response dummy are made from 3/4-inch steel plumbing pipe, threaded at both ends. Like the arms for the traditional dummy, they should be as long as the distance from your elbow to your knuckles. I was able to use a 36-inch piece of pipe cut in half for the upper arms of my dummy. If your arms are longer, you may need to start with two 24-inch pipes and cut them to length. After cutting your arms with a hacksaw, file or grind the cut ends smooth and remove all sharp edges. **(Figure 59.)**

Next, get two four-way connectors for 3/4-inch steel plumbing pipe. Slide one of the connectors onto one side of the all-thread rod and follow it with a flat washer and two 3/4-inch nuts. The nuts should be tightened so they are flush against each other, with the outer nut even with the end of the rod. Slide the washer and four-way connector tight up against the nuts and measure from the inside edge of the four-way connector to the outside edge of the nut near the post. **(Figure 60.)**

Take this measurement, add about 1/2-inch, and use the result to measure from the threaded end of an 18-inch piece of 3/4-inch pipe in toward the center. Make a mark and cut the pipe with a hacksaw. As before, file the cut end of the pipe smooth. This will be one of the shoulder sleeves.

Remove the nuts, washer, and four-way connector from the all-thread rod. Secure the four-way connector in a vise and use a pipe wrench to screw the threaded end of the shoulder sleeve into one of the fittings of the connector.

Now slide a flat washer onto the all-thread rod, followed by the shoulder sleeve (cut end first) with attached connector, another flat washer, and two 3/4-inch nuts. Hand-tighten so the shoulder sleeve can rotate freely. If you measured correctly, everything should fit. If you didn't, trim or file to achieve a proper fit. Then repeat the process for the other side of the all-thread rod. You should be able to get both sleeves from the same 18-inch piece of pipe. Just cut the second one from the other side. Alternately, you might be able to get by with a store-bought 6- or 8-inch piece of 3/4-inch pipe. It all depends upon the thickness of your post.

Next, take a 6-inch piece of 3/4-inch pipe threaded at both ends and cut it in half. Again, file the cut ends smooth. Make a center punch mark on the outside surface of each piece about 1/2 inch from the cut end and drill a 3/16-inch hole though both walls of the pipes. Use a countersink to remove any burrs or sharp edges on the holes in these spring mounts.

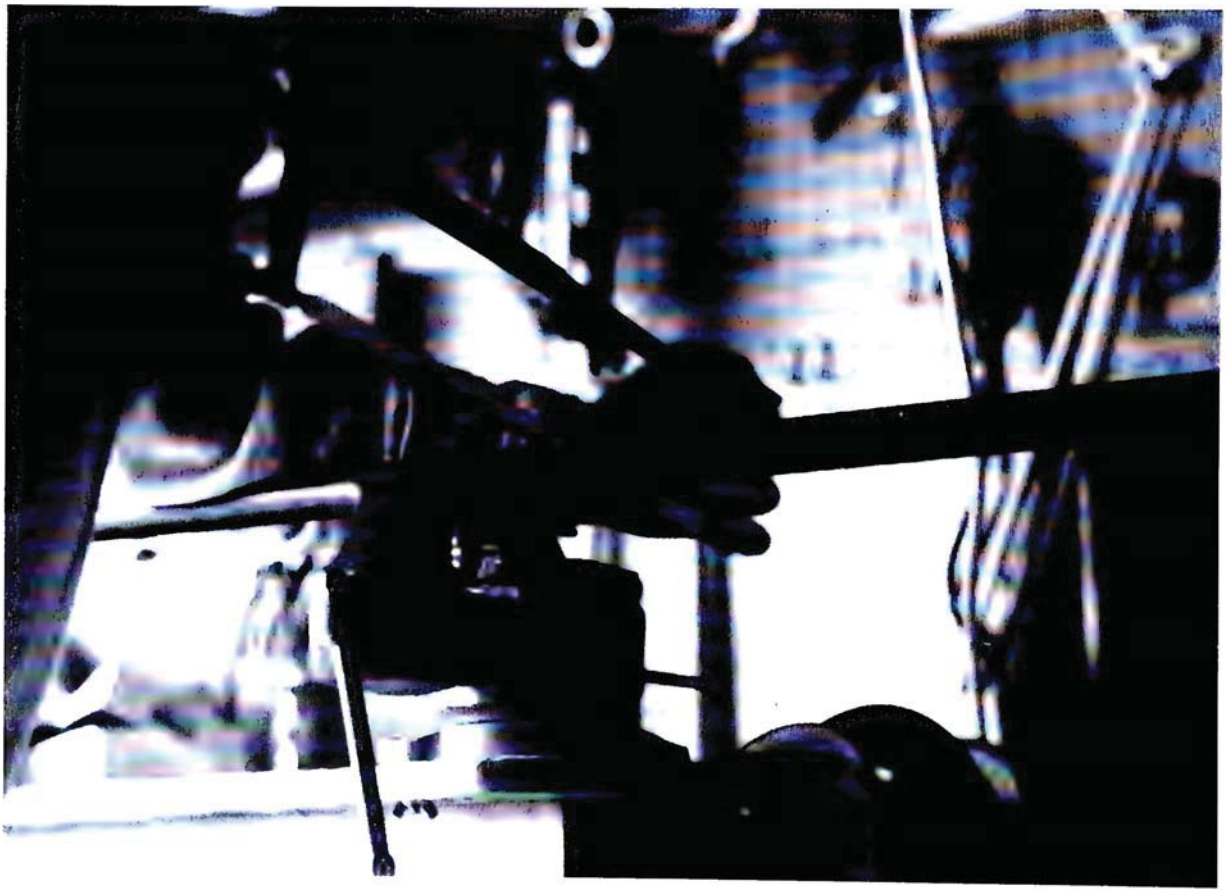
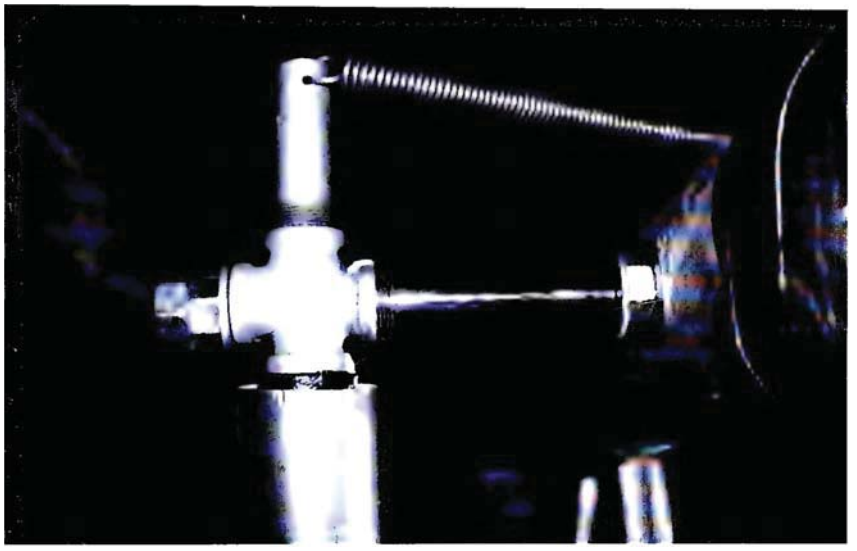
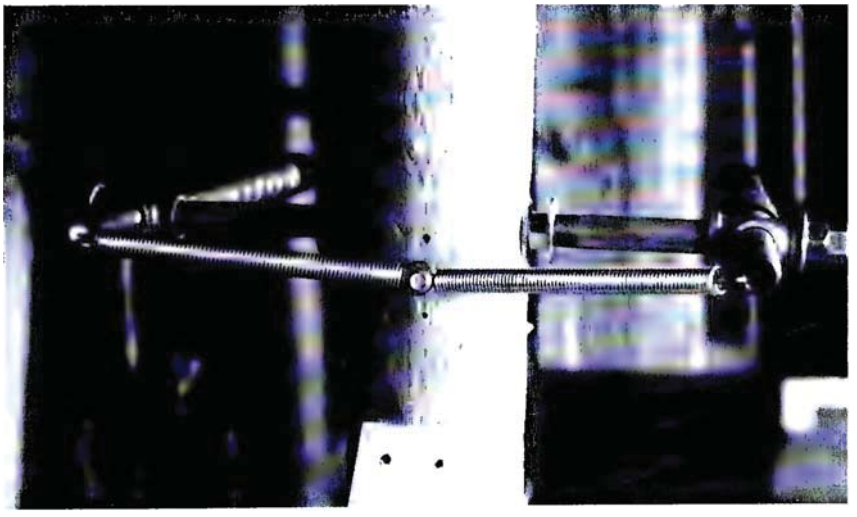


Figure 59. The arms of the Human Response dummy are made from 3/4-inch steel plumbing pipe. Here two arms are being made by cutting a 36-inch piece of pipe in half.



TOP: Figure 60. The shoulder sleeves of the dummy are made from a 3/4-inch four-way connector and a short piece of 3/4-inch pipe. These sleeves fit over the all-thread rod that forms the shoulders of the dummy and are held on by flat washers and 3/4-inch nuts.

CENTER: Figure 61. A top view of the arm assembly of the Human Response dummy. Note that the shoulder sleeves are mounted between two flat washers and retained by two 3/4-inch nuts tightened to act as jam nuts. The springs are attached to 3-inch pipes (a 6-inch pipe cut in half) screwed into the rear fitting of the four-way connector.



BOTTOM: Figure 62. A rear view of the spring-loaded arms of the Human Response dummy. Note that both springs are anchored to the dummy post with a lag screw and washer.

RIGHT: Figure 63. Although the lower arm of the Human Response dummy can pass through the post, a quicker method of attaching it is to use a pipe flange. Use a chisel to flatten the front face of the dummy and attach the flange with four 3-inch deck screws.

LEFT: Figure 64. The lower arm is then cut to length and screwed into the flange.

Use a pipe wrench to screw the threaded ends of the arm pieces into the four-way connectors. The weight of the pipes should cause the arms to hang straight down. Now screw the spring mounts into the remaining fitting of the four-way connector.

Go down to the local hardware store or home improvement center and purchase two #195 expansion springs. These are heavy coil springs about 8 inches long with attachment rings on each end. With pliers, open the ring at one end of one of the springs. Hold one of the dummy arms level and insert the ring through the uppermost hole in the spring mount (it will only pass through one wall of the pipe). Then crimp the ring closed. Repeat this process for the other spring and arm.

Now get a 3/8 x 3-inch lag screw and a flat washer. Slip the washer onto the screw and then pass the screw through the rings on the free ends of both springs. With the dummy body braced or held upright, place the point of screw against the back of the post and move it downward until the spring tension holds the dummy arms level (this requires some effort). Make a mark, drill a pilot hole, and screw the lag screw into the post. **(Figures 61 & 62.)**

Lower Arm

With the upper arms done, it's time to mount the lower arm. This can be done using the same method as the traditional wing chun mook jong. In fact, if you are not going to use the flexible wall mount, this method

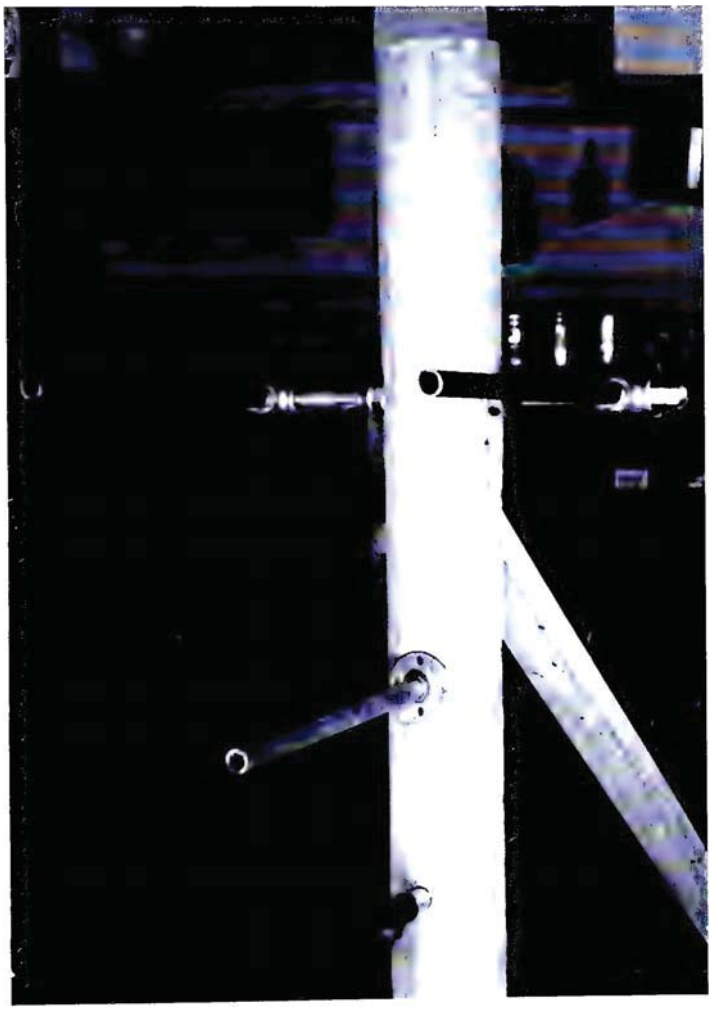
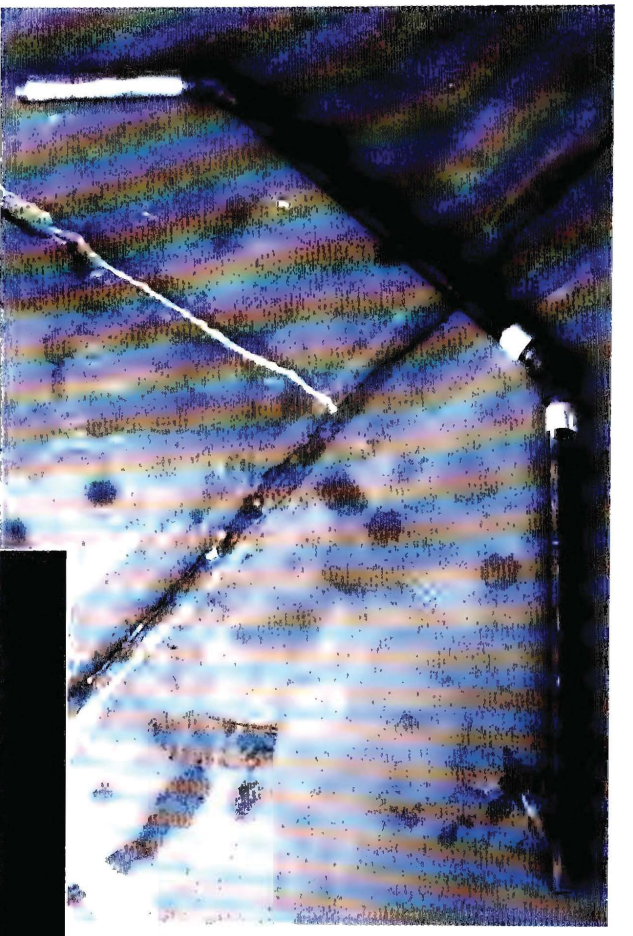


Figure 65. The completed arm assembly of the Human Response dummy.

RIGHT: Figure 66. The leg for the Human Response dummy is made from two 18-inch lengths of 3/4-inch pipe, one 8-inch pipe, and two 45-degree elbows. Although tightening the parts with a wrench is adequate for light-impact training, for better results, secure all these joints with silver solder, brazing, or tack welding.



BELOW: Figure 67. The spring-loaded leg on a Human Response dummy. Note the bungee cord running from the three-way connector and short length of pipe to an anchor point at the base of the post. (Note: Although a short piece of scrap pipe is shown attached to the three-way connector here, an 8-inch pipe is recommended.)

is preferred since it provides better "give." If you are going to use the flexible wall mount, a quicker method of mounting the lower arm is to use a 3/4-inch pipe flange. **(Figures 63 & 64.)**

First, mount the dummy at the proper height to whatever frame or mounting system you've chosen. Assume a forward stance with your elbow braced against your ribs and determine the proper height for the lower arm (see the section on the traditional mook jong for more detail). Cut the lower arm to the proper length (elbow to knuckles) from a piece of 18- or 24-inch 3/4-inch pipe, dress the cut end and screw the other end into a æ-inch pipe flange. Using the upper arms as a guide, determine the center of the post at the height of the lower arm. You can accurately eyeball this by holding the lower arm and flange parallel to the upper arms. With the lower arm held in place, make pencil marks on the top and bottom edges of the flange.

Now use a wood chisel and hammer to chisel out a flat spot between the marks for mounting the flange. When you are satisfied that the spot is flat and perpendicular to the upper arms, mount the flange to the dummy with four 3-inch deck screws. Finally, screw the lower arm in place. **(Figure 65.)**

The Leg

The final step in making the Human Response dummy is the leg. Like the arms, the leg will be constructed from 3/4-inch plumbing pipe and fixtures. This leg construction method may also be used to make a leg for a traditional-style dummy.

First, get two 18-inch pieces of pipe, two 8-inch pieces of pipe, two 45-degree elbows, and a three-way "T" connector. All pipes must be threaded at both ends. Connect the 18-inch pipes to both sides of a 45-degree elbow. Attach another 45-degree elbow to the other end of one of the 18-inch pipes and then screw one of the 8-inch pipes into the remaining fitting of the elbow. Tighten all pipes securely using a vise and a pipe wrench or two pipe wrenches. When properly assembled, the entire assembly should lie flat, and all elbows should be facing the same way. **(Figure 66.)**

If you would like to attach a foot to the end of the leg (for foot trapping practice), cut one from a piece of 2x4 and round the edges. Then use a 1 1/8-inch spade bit to drill a blind hole about 1 inch deep where the ankle would naturally meet the foot. Clean the pipe threads at the end of the 18-inch pipe with solvent, coat them with epoxy, and screw the foot onto the end of the pipe. Make sure the "toes" of the foot face forward, away from the rest of the leg.

With the dummy post mounted at the proper height, hold the leg assembly so the 8-inch pipe is horizontal and the rest of the leg extends downward. Position the assembly at the desired height and mark the level of the 8-inch pipe. On traditional dummies, the leg is usually suspended above the floor. For the Human Response dummy with the wooden foot, the foot will lie flat on the floor. This not only allows the practice of foot traps and stomps, it helps absorb the shock of hard kicks by directing the force into the floor.

Using the lower arm as a guide to determine the center of the post, drill a 1 1/8-inch hole through the center of the post. This hole will be a tight fit, but a 1 1/4 inch hole is a bit too sloppy. To achieve the proper fit, use a round rasp to enlarge the hole until the 8-inch pipe fits all the way through (up to the first 45-degree elbow) and can turn freely.

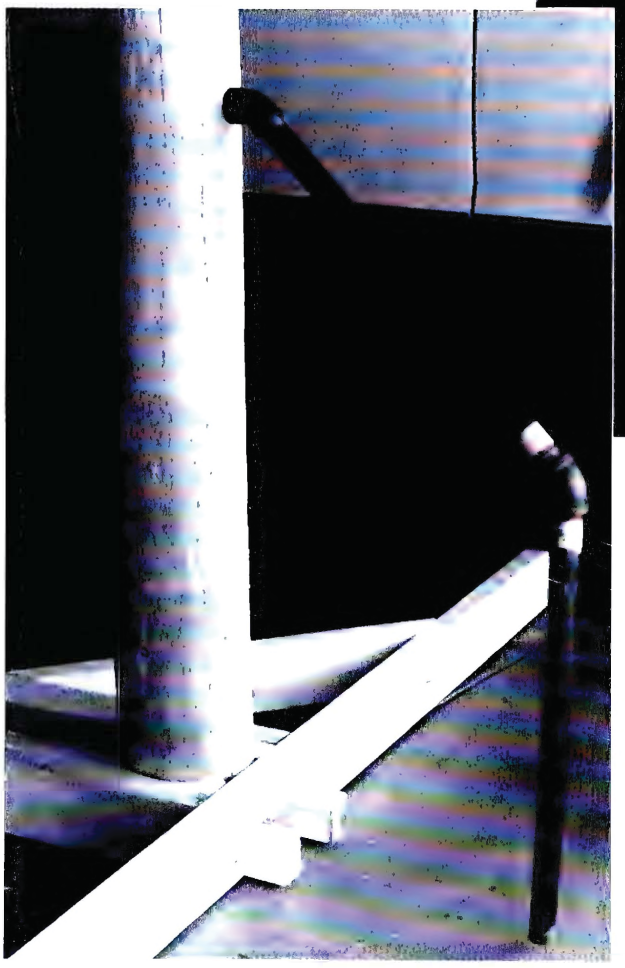
Attach the three-way connector to the back end of the 8-inch pipe so that one of the remaining right-angle fittings points straight down (on the same plane as the leg). Tighten the connector securely with a wrench.

Now take the remaining 8-inch pipe, center-punch a mark just past the threads on one end, and drill a 1 3/16-inch hole through both walls of the pipe. Screw the other end of the 8-inch pipe into the downward-facing fitting of the three-way connector. Get a short bungee cord with metal hooks and place one of the hooks through the holes in the 8-inch pipe. Attach the hook at the other end to the rear face of the post near the bottom using a sturdy eye screw. With the bungee cord acting as a spring, the leg can now be moved to the right or left and will snap back to center automatically. **(Figures 67 & 68.)**

If you do not like the idea of a spring-loaded leg, you can replace the three-way connector with a simple pipe cap to keep the leg in place. **(Figure 69.)**

RIGHT: Figure 68. A closer view of the working portion of the spring-loaded leg.

BELOW: Figure 69. A simple dummy leg for a traditional or Human Response dummy. Note that the end of the leg is suspended above the floor and that the leg assembly is retained by a pipe cap at the back of the post.



LEFT: Figure 70. The completed Human Response dummy attached to a flexible wall mount.

BELOW: Figure 71. The author demonstrating a foot sweep on the spring-loaded leg. This technique clearly illustrates the flexibility of the Human Response dummy. Notice how the arms are moved in opposite directions and the post turned to simulate unbalancing an opponent before executing the sweep.

Although the wrench-tightened fittings of the leg assembly work well for light impact, the leg joints can be knocked out of alignment with powerful kicks and sweeps. To prevent this from happening, it is a good idea to silver-solder all the joints except those on the three-way connector. This can be done with a propane torch, flux, and low-temperature silver solder. Alternately, you can take the leg assembly to a welder and have him tack-weld or braze the joints.

Even with soldered or welded joints, you may find that 3/4-inch pipe can bend when it is used for the suspended leg of a traditional wing chun mook jong. If you plan to practice a lot of hard kicks on a suspended leg, you may want to use larger diameter pipe. You may also choose to mount the leg rigidly so it does not turn. Take a trip to the local plumbing shop and see what's available; then adapt these plans to suit your materials. **(Figures 70 & 71.)**

Covering the Arms

To give the arms of the Human Response dummy a more realistic feel and protect the user from injury, I cover them with foam rubber padding. The best source I've found for this is the foam pipe insulation available from hardware stores. It comes in different sizes to fit different diameters of pipe, but I usually use the 1 1/4-inch size and trim to fit. Cut the insulation a few inches longer than the length of the dummy arm and open the precut slit all the way up the side. Place the insulation around the pipe and use duct tape to attach one edge to the pipe along its entire length. Wrap the insulation tightly around the pipe and trim the other edge to eliminate any overlap. Then put a band of duct tape all the way around the padding every 6 to 8 inches to hold the first layer in place.

Take another section of insulation the same length, open the slit on the side, and wrap it around the first layer. If there is a gap between the mating edges of the slit cut a narrow strip from another piece of insulation and use it to fill the gap. Carefully wrap the second layer of insulation in duct tape, applying firm pressure to secure it against the first layer.

When the second layer is complete, use a utility knife to cut the front of the padding off evenly about 2 inches in front of the end of the arm pipe. Cut several small pieces of foam and push them into the hollow in front of the end of the pipe. Now, tear lengths of duct tape about 1 foot long in half lengthwise and use these strips to tape the end of the arm. Place one end of the tape on the arm and then pull the other end tight across the end of the padding and secure it to the other side. This will round the end of the arm and keep you from hitting the end of the pipe. Repeat this process, criss-crossing the tape in a radial pattern around the end of the arm. Then wrap several more turns of tape around the arm itself to hold the loose ends of the narrow tape in place. Once you've got the upper arms done, repeat the process on the lower one and, if desired, the leg as well.

The extra weight of the padding probably caused your dummy's arms to sag slightly. Don't worry. We still need to adjust the tension on the shoulder sleeves anyway. To do this, first loosen the nuts on the ends of the shoulders so that the shoulder sleeve rotates freely both up and down. Now slowly tighten the inner nuts until the arms just start to bind when moved up and down. Holding the inner nuts in place with one wrench, use a second wrench to tighten the outer nut against the inner nut. The nuts should be tightened against each other so the outer one acts as a jam nut and prevents both nuts from loosening. Test the movement of the arms and adjust as necessary to get the proper fit. As added insurance, you can also coat the all-thread rod with Loctite to keep everything in place.

Leveling the Arms

Now that the arms move freely, it's time to get them level and even. To do this, gently turn the spring mounts with a pipe wrench to increase the tension on the springs and raise the ends of the arms. The holes in the spring mounts to which the springs are attached should move outward to increase the tension. This will probably require some tinkering and you might even have to switch the spring to the hole in the other side of the pipe to achieve the right tension.

Once the arms are level and moving smoothly, put a little bit of grease on the mating surfaces of the shoulder sleeve and the flat washers. Move the arms up and down some more and see if anything changes. If so, tweak the tension again until you get it right.

Padding Your Dummy

Call me a wimp, but my hands, arms, and feet are not as hard as wood or steel, and I really don't enjoy hitting such materials. In my opinion, the purpose of a training dummy is to represent an actual opponent. As such, the feel and resistance of the striking areas should come as close as possible to the hardness of those areas on an actual person. And the best way to achieve this is by padding your dummy.

If you decide to pad your dummy, you may either pad only the striking targets, such as the head and body, or you may pad the entire thing. Either way, the process is pretty much the same.

The best padding materials I've found are the foam pipe insulation we used on the dummy's arms and the foam sleeping pads used for camping. Both of these are made of closed-cell foam that absorbs shock well and allows you to hit hard without getting injured. Both are also pretty inexpensive.

To attach the foam, simply cut it to fit the area you'd like to pad and wrap it with duct tape. For large areas, you may find the sleeping pads work best. For smaller areas or areas between the dummy's arms, you may want to use the foam insulation. To use it, open the slit and spread it out flat to expose the inside surface. Hold it in place and wrap it with duct tape.

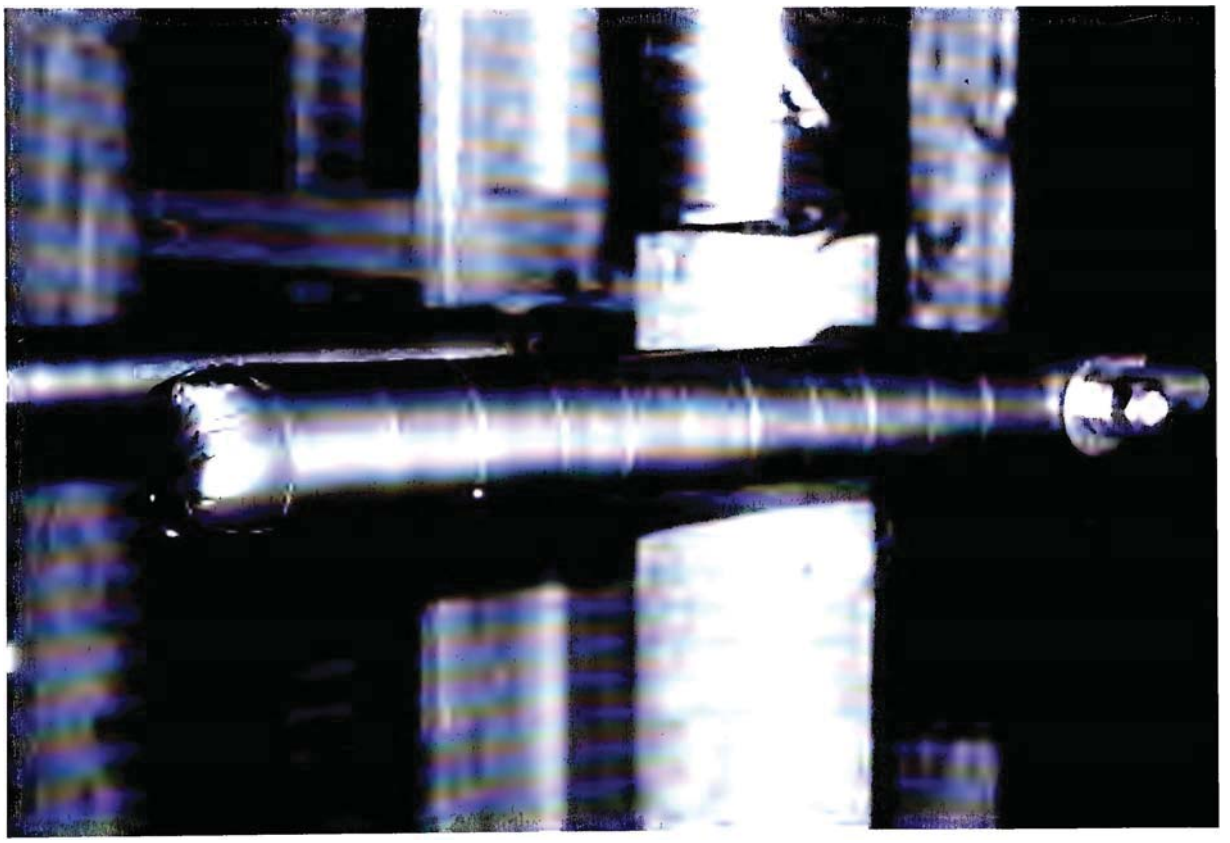


Figure 72. The author highly recommends padding your dummy. Inexpensive foam pipe insulation and duct tape can make your dummy much more user-friendly.

If you're really motivated, you can also make canvas or vinyl covers to go over the padding. Cut the material to fit, hem the edges, and install grommets in both sides. Wrap the piece around the dummy with the grommets in the back and use nylon cord to lace it securely in place.

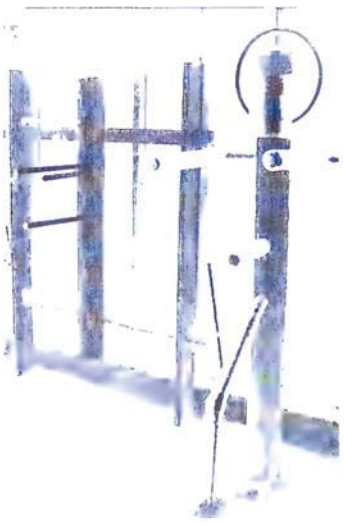
I highly recommend that you pad the shoulder sleeves of your dummy. This area includes exposed edges of washers and plumbing fixtures that could easily damage your hand if you threw a stray punch. Wrap the sleeves with two layers of pipe insulation and duct tape, but be careful not to restrict the movement of the dummy's arms.

Additional Accessories for the Human Response Dummy

One of the greatest advantages of using plumbing fixtures for the arms of the Human Response dummy is that it allows you to replace or modify the dummy's limbs to suit your training needs. For example, if you would like to practice close-range defenses against uppercuts, you can unscrew the straight arms of the dummy and make bent arms from shorter lengths of pipe and 90-degree elbows. By adjusting the spring tension, you can position these arms where you want them. For uppercuts, they would be low. To simulate downward chopping attacks, they would be high. It is also possible to lock the dummy's upper arms in a specific position. Simply tighten the retaining nuts on the shoulders and lock the arms where you want them.

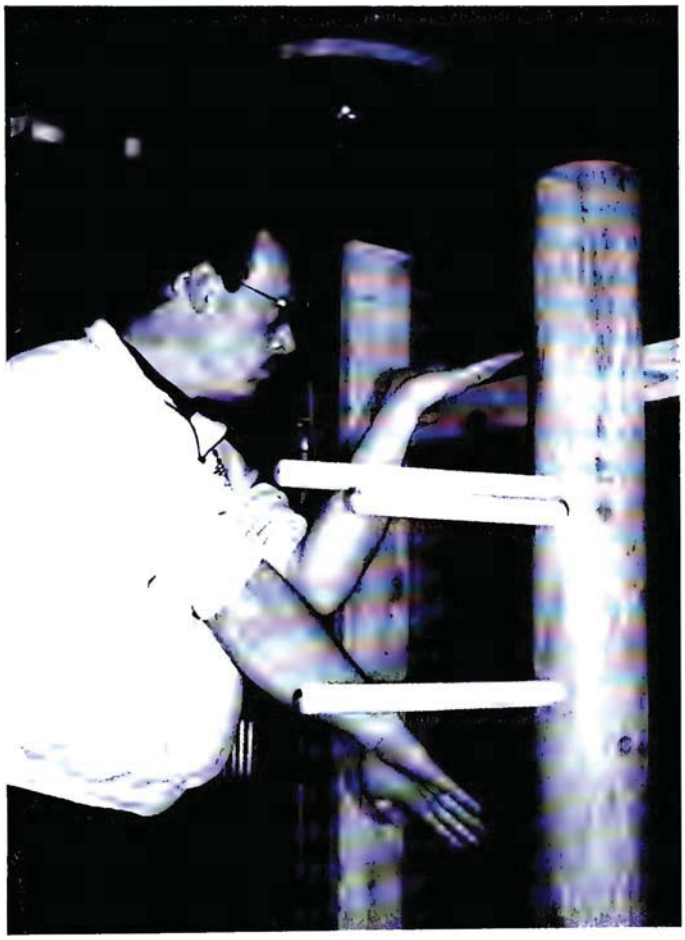
If you would like to represent an armed attack, you can use pipes and elbow connectors to simulate an arm holding a stick or a knife. To keep the arms from getting too heavy, use steel pipe for the main arm portion and 3/4-inch threaded PVC for the sticks and knives.

CHAPTER THREE



USING YOUR DUMMY

Once your dummy is complete, it's time to have some fun with it. If you're already adept at dummy forms, you know what to do. If you've never worked with a dummy before, my advice is to go slowly. Dummies are much more resilient than heavy bags, and it's very easy to get injured by hitting too hard. I like to isolate specific techniques and practice them slowly for form and placement. As I get into the flow, I gradually increase my speed and power until I'm hitting almost full force.



After doing a number of isolated techniques, start combining them, varying your distance and footwork to add realism to your training. If you're using a Human Response dummy, take advantage of the spring-loaded arms to simulate attacks. For example, if you want to practice a defense against a downward stabbing or chopping attack, swing the dummy's arm downward and let go. The spring tension will snap the arm back up high and then downward again along the path of the desired strike.

If you're interested in learning actual dummy forms, your best bet is to purchase these two Paladin video, *The Mook Jong Slam Set* with Sifu Joseph Simonet and *The Ultimate Streetfighter* featuring Datu Kelly S. Worden. Slam Set is a detailed presentation

Figure 73. When first using your wooden dummy, go slowly and don't strike with too much force. It is very easy to get injured by striking too hard.

of Sifu Simonet's eclectic wooden dummy form, which is designed around a traditional mook jong without a leg. This form draws from his vast martial arts experience and includes elements of wing chun, Indonesian pentjak silat, kenpo, Doce Pares escrima, and even Yang-style taijiquan. Simonet's two-tape video set includes step-by-step instruction in the Slam Set form as well as detailed instruction in its many combat applications. This is by far the most complete and dynamic wooden dummy instruction ever presented on video.

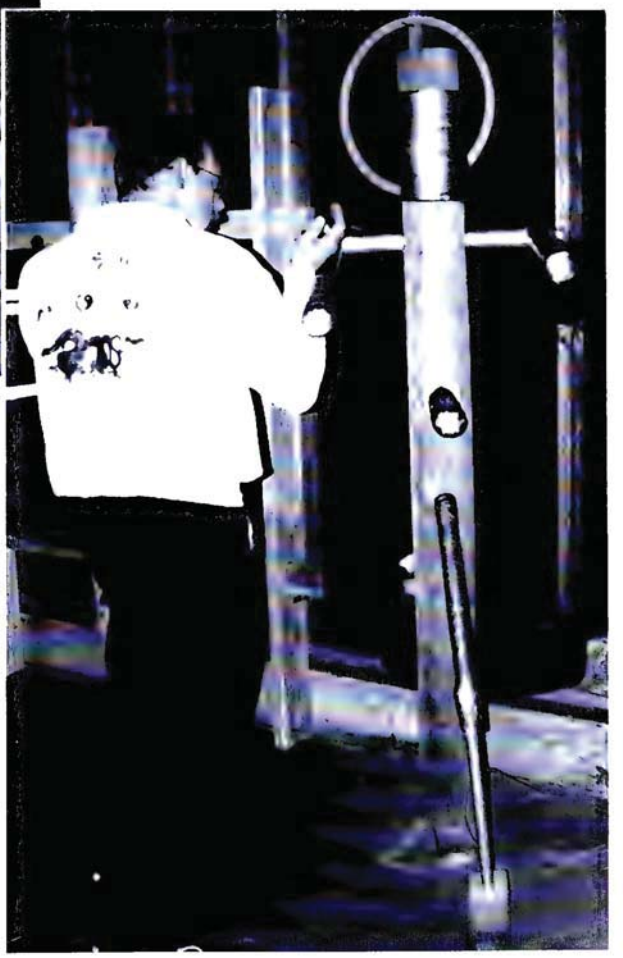
Datu Worden's *Ultimate Streetfighter* features extensive instruction in his eclectic dummy form, which is designed around his unique Silent Fighter training dummy. This explosive form draws from Worden's extensive knowledge of the Filipino martial arts and Bruce Lee's nonclassical gung fu. In *The Ultimate Streetfighter*, Datu Worden presents detailed instruction in the fundamental movements of the form as well as devastating examples of the combat applications of the movements. This video set is an excellent companion for use with the Human Response dummy.

The bottom line with any training aid is to use your imagination and approach your training with proper intent and attitude. If you can do that, you'll soon find that a wooden dummy is as close as you can get to training with a live partner.

Figure 74. When mounted to the flexible wall mount, the Human Response dummy provides almost human reactions to your technique. Here the author starts from a neutral stance in front of the dummy.

LEFT: Figure 75. A simulated right punch is deflected with the left hand, turning the dummy's torso against the spring pressure of the tire mount.

BELOW: Figure 76. As the right forearm checks the arm, the pressure must be maintained or the dummy will snap back to center.



ABOVE: Figure 77. Finally, the right hand grabs and pulls the dummy arm downward as a left palm strike attacks the head.

RIGHT: Figure 78. Unlike traditional dummy designs, the Human Response dummy allows you to practice even advanced techniques. Here the author demonstrates a simultaneous figure-four armlock and reaping throw. Try that on a wing chun mook jong.

Figure 79. Another example of advanced technique practice on the dummy. The author has grabbed the dummy's head with both hands and is checking the arms downward with his elbows. He has also trapped the front foot as he delivers a knee strike to the lower arm (representing the groin, stomach, or lowered head).

APPENDIX

TRADITIONAL WING CHUN MOOK JONG PARTS LIST

- 6-inch diameter wooden fence post, 8 feet long (1—dummy body)
- 3/4 x 24-inch steel plumbing pipe, threaded at both ends (3—for dummy arms)
- 3/4-inch plumbing lock nuts or pipe caps (3—arm retainers)
- 1-inch schedule 40 PVC pipe, 10 feet long (1—for arm sleeves)
- 5 1/2 x 1/4 lag screws (4—for mounting the dummy to frame)
- 1-inch fender washers (4—for mounting dummy to frame)
- 1 1/8-inch dowel rod, 3 feet long (1—for plugs at end of arms)
- #8x3/4 wood screws (6—for attaching plugs to ends of arms)
- Two-part epoxy (for attaching plugs to ends of arms)
- Bondo automotive dent filler (1 small can for filling gaps in arm sleeves)

HUMAN RESPONSE DUMMY
PARTS LIST

- 6-inch round wooden fence post, 8 feet long (1—dummy body)
- 3/4 x 24-inch all-thread rod (shoulder cross piece for single wide-shouldered dummy)
- 3/4-inch nuts and washers (6)
- 3/4 x 36-inch pipe threaded at both ends (1—cut in half for arms)
- 3/4 x 18-inch pipe threaded at both ends (4—cut one in half for arm mounting sleeves, one for the lower arm, and two for the leg assembly)
- 3/4 x 8-inch pipe threaded at both ends (2—leg mounting piece and spring mount for leg)
- 3/4 x 6-inch pipe threaded at both ends (1—cut in half for spring mounts for arms)
- 3/4-inch four-way connectors (2—arm mountings)
- 3/4-inch three-way connector (1—leg retaining piece)
- 3/4-inch 45-degree elbows (2—leg joints)
- 3/4-inch flange (1—for mounting lower arm)
- #195 coil springs (2—for spring-loading arms)
- Foam pipe insulation for 3/4-inch pipe (2—10-foot pieces)
- Duct tape
- Heavy- duty bungee cords (1—for spring-loading leg)
- 1/4 x 3-inch lag screw with flat washer (1—for attaching spring ends)